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BRANCH I.

ORIGINAL COMMUNICATIONS.

FOR THE FARMER'S MAGAZINE.

MEMOIRS of JOHN COCKBURN Esq. of ORMISTON

(with a portrait), including a Short Sketch of the Various Improvements introduced by him.

"No father can have more ſatisfaction in the proſperity of his children, than I have in the welfare of perſons ſituated upon my eſtate. I hate tyranny in every ſhape; and ſhall always ſhow greater pleaſure in ſeeing my tenants making ſomething under me, they can call their own, than in getting a little more money myſelf, by ſqueezing a hundred poor families, till their neceſſities make them my ſlaves."

Letter, Mr Cockburn to Alexander Wight, one of his tenants, 18th Auguſt 1725.

THE ſtate of Scotland, at the beginning of the eighteenth century, was abject and miſerable. From the important æra of the Reformation to that time, a period of one hundred and fifty years, the country had been diſtracted by civil and religious broils, carried on with a keenneſs and animoſity that totally engroſſed the minds of the inhabitants, and left no room for a ſingle thought about internal improvement. During the minority of James VI., parties were formed, which reſolutely oppoſed the meaſures of each other in a hoſtile manner. Under his ſon's reign, theſe broils broke out into open warfare; and different clans, nay even different families, met in the field, and fought with equal zeal and alacrity as they would have done againſt a foreign foe. The horrid and unrelenting perſecution, which ſucceeded the Re-

ſtoration, and continued, with ſome ſhort intervals, till the glorious Revolution, abſolutely interdicted improvements of every kind; and the fatal expedition to Darien in King William's reign, (an expedition undertaken with as much zeal as animated the eaſtern cruſaders) beggared the country, and left it a prey to miſery and woe.

It was at this time, and under ſuch unpropitious circumſtances, that the diſtinguiſhed perſonage, whoſe memoirs we now propoſe to give, entered upon public life. To rouſe the ſpirit of the country, ſunk and exhauſted as it was by civil and religious oppreſſion, required the exertions of a ſteady and perſevering mind. Such was happily poſſeſſed by Mr Cockburn; and if the following paſſage, taken from the works of our celebrated Scotiſh bard, was ever applicable to any individual, it certainly was to the gentleman, whoſe life now occupies our attention.

'Oh! is there not ſome patriot, in whoſe power
That beſt, that godlike luxury is plac'd,
Of bleſſing thouſands, thouſands yet unborn,
Thro' late poſterity? Some, large of ſoul!
To cheer dejected induſtry; to give
A double harveſt to the pining ſwain,
And teach the labouring hand the ſweets of toil?
How, by the fineſt art, the native robe
To weave; how, white as Hyperborean ſnow,
To form the lucid lawn?'

The poet might be anſwered, 'Yes, there *were* ſuch!—One who ſeemed to exiſt ſolely for the benefit of others; whoſe higheſt happineſs lay in advancing their welfare; whoſe large ſoul, diſdaining the grovelling maxims of private intereſt, exerted itſelf, on every occaſion, to promote the proſperity of thoſe whom Providence had placed below him.'

But to return from this digreſſion. At the above æra, the tenantry of Scotland, thoſe of a few fertile ſpots excepted, had been nearly ruined by the calamitous ſeaſons which prevailed at the end of the ſeventeenth century. Capital ſtock had thereby been wreſted out of their hands; and the proprietors, generally ſpeaking, were ſtill too proud, perhaps too ignorant, to intereſt themſelves about the amelioration, even of their own domains. The qualities, ſuppoſed to compoſe the character of a feudal chieftain, are badly calculated for promoting internal improvement; and it deſerves attention, that the feudal ſyſtem has been gradually undermined, in direct proportion as improvements have been made in agriculture and manufactures. Such ſentiments ſeem to have influenced Mr Cockburn; for all his words, all his actions, were dictated by a ſpirit to increaſe the proſperity of the middling ranks. This

This being accompliſhed, feudalage muſt neceſſarily be overturned in every nation; and proprietors, like other men, eſtimated according to their reſpective merits, without receiving ſupport from the adventitious circumſtances under which they are placed. Without inſiſting farther upon theſe general topics, we proceed to detail ſome particulars of Mr Cockburn's life, and the means employed by him to reſcue the country from its then abject and miſerable ſtate.

John Cockburn Eſq. was born about the year 1685, being ſon of Adam Cockburn of Ormiſton, Lord Juſtice-Clerk of Scotland after the Revolution. Deſcended from a family who, during the various ſtruggles which Scotland made to ſhake off the fetters of tyranny, took a decided part in favour of public liberty, Mr Cockburn inherited, with the eſtate of Ormiſton, a large portion of genuine patriotiſm, and warmly ſupported the Hanoverian ſucceſſion as beſt calculated to promote conſtitutional freedom. During his father's lifetime, he ſat as a member of the laſt Scotiſh Parliament, and took an active part in the proceedings which happily terminated in connecting North and South Britain in the ſtricteſt bonds of union, without which the Britiſh nation could not poſſibly have arrived at its preſent pitch of proſperity. Afterwards, he was ſucceſſively elected to repreſent the county of Haddington from 1707 to 1741, in the Parliament of Great Britain, and for many years occupied the office of a Lord of the Admiralty, which of courſe occaſioned him to reſide much in England, and to become intimately acquainted with the rural practices of that kingdom. Though the low country diſtricts of Scotland are, at this day, equally well cultivated with the generality of South Britain, yet very different was their condition at the period we are now deſcribing. Lord Kaimes, that excellent judge of mankind, declares, in his ſtrong way, that the tenantry were then ſo benumbed with oppreſſion, that the moſt able inſtructor in huſbandry would have made nothing of them. Fletcher of Salton, a contemporary of Mr Cockburn's, ſtates their ſituation as truly deplorable. In fact, many farms remained unoccupied; even tenants rarely accepted of leaſes, at leaſt they were ſhy of entering into them for any conſiderable number of years. Proprietors then ſought after tenants with the ſame aſſiduity as is now diſplayed by the tenantry when a farm is in the market.

Before we enter upon the means uſed by Mr Cockburn to improve his eſtate, it is proper to deſcribe the nature of the ſoil thereof, and the circumſtances under which it was then placed.

The lands of Ormiſton were originally about two thirds of moorish ſoil, a conſiderable part of which was covered with a dwarf kind of heath; the reſt of this claſs conſiſting of a thin clay, abun-

dantly obdurate, and incumbent upon a retentive bottom. The other third part might be characterized as good, healthy land, ſome of it rich clay, the remainder a mixture of clay and gravel, or what is called a greaſy loam; a ſmall quantity of water-ſed earth, accumulated from the overflowings of the Tyne, lay on the banks of that river.

To cultivate ſuch land, as compoſed the far greateſt part of the eſtate, required much knowledge and dexterity, together with a conſiderable capital ſtock. At a time, when the art of agriculture was imperfectly underſtood, and the ſituation of the tenantry ſo reduced, it could hardly be expected that ſubſtantial improvements would be undertaken by them, unleſs their minds were previouſly enlightened, and their condition ameliorated. To the accompliſhment of theſe objects Mr Cockburn's attention was early directed; and, though numberleſs obſtacles encountered him in his progreſs, yet a degree of ſucceſs followed, ſufficient to encourage and facilitate improvements in many other quarters. Ormiſton, in a little time, was flocked to by the amateurs of huſbandry; and we have not only traditionary, but even written teſtimony to prove, that the firſt dawn of Scotiſh improvement appeared upon the eſtate of Mr Cockburn.

A large portion of the Ormiſton eſtate lies on the ſouth ſide of the river Tyne, and riſes gradually from the water towards the hills, terminating at the ridge called *Doddridge-law*, where ſome veſtiges of a Roman or Daniſh camp ſtill remain. The lands north of Tyne, and round the village of Ormiſton, conſtitute the better half of the property, though they were not firſt improved. Ten tenants and their cottagers reſided in the village, and the whole ground north of Tyne was occupied by theſe tenants in *rundale*, agreeable to the mode of holding which exiſted in theſe barbarous days. Hence prevailed many other unprofitable cuſtoms, particularly that of keeping the whole cattle belonging to the tenants in one common drove, tended by one or two men as herds. They were taken out every morning; regularly traverſed the fields by the ſame route, picking up every thing that could be got; and arrived in the evening at the homeſtead nearly as hungry as when they ſet out, but conſiderably more fatigued. What is now mentioned will throw ſome light upon the agriculture of the eſtate, at a time when, ſeveral of the tenants having failed, though the lands were low-rented, particularly about the village, a new ſyſtem was adopted; the runfield plan was aboliſhed, and the lands divided into proper fized farms, each having a ſteading built in a convenient ſituation. The farms ſouth of Tyne water amounted to four; two of which, though containing the pooreſt ſoil, were the firſt improved.

improved. Encloſing by ditch and hedge, with trees on the bank, was inſtantly ſet about; and, that thoſe encloſures were the firſt attempted in Scotland by a tenant, is ſupported by all traditionary authority. Such works were then of a novel nature, and could not fail to make laſting impreſſion on the minds of the neighbours.

In 1698, the Lord Juſtice Clerk granted to Robert Wight, eldeſt ſon of Alexander Wight, one of his tenants in Ormiſton, a leaſe of the farm called *Muirhouſe*, now *Murrays*, to endure for 11 years. The name of this farm is deſcriptive of the ſoil and the ſtate of the land at the time. It was the firſt on the eſtate that was encloſed; and Robert Wight was the firſt farmer, if tradition ſpeaks truth, who encloſed by ditch and hedge, and planted hedge-row trees in Scotland on his own proper charge. Again, in 1713, Lord Juſtice Clerk granted to the ſaid Robert Wight a leaſe for 9 years of the farm adjacent to the Murrays, called the *Houſe of Muir*. Such was the timidity of thoſe days, that few farmers could be prevailed upon to accept of leaſes of longer endurance than 5 years.

John Cockburn Eſq., about this time, may be ſaid to have entered upon his agricultural career. During his father's life-time, he promoted improvements, and encouraged the tenantry upon the eſtate both by precept and example. As Robert Wight had ſhewn an early and uncommon ſpirit to enter into his views, he, in 1718, four years after his ſucceſſion, granted a new leaſe of the Murrays farm to him for 38 years, at a rent of 750 pounds Scotiſh money; and upon paying 1200 pounds Scotiſh, in name of fine or graſſum, at the expiration of that term, a renewal thereof for other 19 years, and ſo on from 19 to 19 years in all time coming. The two ſubſcribing witneſſes to this deed were Sir John Inglis of Cramond Bart. and John Hepburn Eſq. of Humbie; and they were invited on this occaſion by Mr Cockburn, in order that, from his example, they might be animated with the like liberal and patriotic principles for encouraging the improvement of agriculture upon their reſpective properties.

Alexander Wight, eldeſt ſon of Robert above named, poſſeſſed the Houſe of Muir farm during the 9 years leaſe, and afterwards held it by tacit relocation till 1725, when, agreeable to the plan for promoting real and ſubſtantial improvements, a new leaſe was granted to him for 38 years and three lives therein named. This tenant having entered heartily into all Mr Cockburn's meaſures for improving the eſtate, as will appear from a letter to be afterwards given, with many others now in our poſſeſſion,

he, as an encouragement to his brethren, got the above leaſe cancelled in 1734, when a new one was granted for 19 years, and renewable for every 19 years, in all time coming, upon payment of a graſſum equal to one year's rent of the premiſes. This was a leading example to all Scotiſh landlords, and held out, to other tenants of the eſtate, the nobleſt encouragement to undertake the amelioration of the lands under their occupation. Both the farms mentioned were naturally of ſuch mean ſoil, that their improvement would have been a hopeleſs taſk under different circumſtances.

Thus we have ſeen, that the foundation of Scotiſh improvements was laid by granting long leaſes. Many people may now think that ſuch a length of leaſe was unneceſſary, and that this diſtinguiſhed perſonage might have accompliſhed the like uſeful purpoſes by beſtowing tenures of a ſhorter duration. If ſuch there are, let them reflect upon the condition of the country, and the actual ſtate of the tenantry at the time, and they muſt acknowledge, that extraordinary examples, and extraordinary encouragement, were neceſſary to ſtimulate a people ſo circumſtanced. We are not to judge of the propriety of the meaſures then employed, by rules adapted to the preſent day, when tenants, in moſt caſes, poſſeſs knowledge and capital ſufficient for the moſt arduous and difficult undertakings. Let it alſo be remembered, that both knowledge and capital were the legitimate children of the ameliorated ſyſtem then introduced. Mr Cockburn laid the firſt ſtone of this ſyſtem; his brethren in different quarters aſſiſted in rearing up the fabric—though perhaps their ſupport was not, in one inſtance, ſo munificent; and the ſucceſs which accompanied it, ſerved to convince almoſt the whole landholders of Scotland, that the ſureſt way of extending improvements, was to give the tenantry an intereſt in their accompliſhment. Hence, the bond of connexion betwixt proprietors and occupiers is formed upon more liberal principles than are adopted in any country with which we are acquainted.

As Mr Cockburn, in conſequence of his official ſituation, neceſſarily reſided much in London, he maintained a regular correſpondence with ſeveral of his tenants, eſpecially with Mr Wight of the Houſe of Muir, who ſeems to have enjoyed his confidence in a particular manner. In the courſe of this correſpondence, he judiciouſly points out excellent rules and hints for the management of all ſoils, and the way in which improvements ought to be executed; ſuch as planting and enclоſing, making public roads, ſowing wheat upon fallow, cultivating

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wheat, turnips, rye-grass and clover, planting potatoes in the field, and feeding of cattle and sheep: all which were attempted by Mr Wight so early as 1724, 25, and 26. Mr Wight was probably the first tenant who raised turnips in drills, and cultivated them with the plough. He brought the culture of this root to such perfection, that, in 1736, a turnip of his raising, which weighed 34¼ lib., was carried to Edinburgh, and hung up in John's Coffeehouse as a show.

These letters, indeed, breathe the spirit of a father addressing his children, and prove his extreme solicitude, though at a distance, respecting the welfare and prosperity of every person whose lot had fallen upon his estate. In a letter dated 24th February 1735, he expresses himself in the following strong terms: 'My tenants are quite upon a different footing than those of other people; and all of you are interested in the future as well as the present prosperity of the place; which is not the case with people who are only from year to year, and, at the end of the year, or at most at the end of a few years, are not sure of having any more to do with the place or parish. But the advantage of your childrens children, in some measure depends upon your putting a helping hand in advancing improvements; and your children are sure of being the better of what you do, which is not the case with your neighbours.' Numberless extracts of this nature might be offered, all proving, in the amplest manner, the tender zeal which influenced Mr Cockburn to watch over the concerns of those below him with a patriarchal anxiety. But we shall content ourselves, at this time, with presenting one entire letter, which marks his character more accurately than any thing in our power to urge, leaving the remainder as an occasional store, whence our readers may derive the most useful instruction.

'I received yours of the 16th July, the morning I left Bath. The manner in which you write surprised me, for I had heard of nothing but difficulties from others who had written to me about country affairs and improvements. I read it once over before I set out, but, as I travelled along, could not help pulling it out several times to see if I was not mistaken, when I fancied that you found some things answer, even in this extraordinary year, and that you was far from being discouraged, but employed your thoughts in finding out cures and remedies, rather than in starting difficulties. You are the only person about Ormiston, from whom I have heard any thing, since I left you, but of the bad success we have had in every thing that has been tried, and objections and insuperable difficulties to every thing that can be proposed for altering the good old husbandry of our fathers.

Indeed, ſince I came into the world, I never ſaw a ſeaſon which ſo much favoured thoſe who are glad of excuſes for ſloth and a lazy dreaming way of going on, without exerting themſelves and employing their thoughts and hands in endeavouring to help and improve nature, to the advantage of themſelves and families. God Almighty has endued mankind with the valuable faculty of thought, or reaſon, with a deſign that they ſhould uſe it for their own advantage, not that they ſhould lock it up, and jog on, as do the brutes, without conſidering why or wherefore they go about the common actions of life, further than that they have ſeen others, as ſtupid as themſelves, do ſo before them. I am very glad to find you have another way of thinking, and that, when a bad ſeaſon comes, you make juſt allowances for it, and, when a reaſonable experiment has been tried, and does not ſucceed to the full of what could be wiſhed, you conſider what cauſes may be for its not ſucceeding, and what can be done to rectify any omiſſion in the former trial, or what improvement, in reaſon, can be made in the next, from whence better ſucceſs can be hoped for; and that you do not entirely reject what reaſon teaches you to be right in the main, becauſe, from a bad ſeaſon, ſome neglect in the management, or for want of ſome further things being done, it did not, with you, come up to the full of what it has done with others in a good ſeaſon, and who, from more experience in the practice, have had it do better than it did with you the firſt time.

'I am not for having you venture too much, raſhly, before you have conſidered well the reaſonableneſs of the experiment, and made trials of it. Allowances muſt be made for different ſoils, climates, and other circumſtances; and thoſe things being obſerved, I am ſtill convinced that by thought, activity and induſtry, our huſbandry may be improved vaſtly, and laborious, induſtrious people, may find better living in our country than the generality of them have yet found; and none, in whom I am any way concerned, ſhall want for all the encouragement a maſter can give to their juſt and honeſt endeavours for promoting their own advantage; for no father can have more ſatisfaction in the proſperity of his children, than I have in the welfare of perſons ſituated upon my eſtate. I hate tyranny in every ſhape, and ſhall always have greater pleaſure in ſeeing my tenants making ſomething under me, which they can call their own, than in getting a little more money myſelf, by ſqueezing a hundred poor families, till their neceſſities make them my ſlaves. I hope my actions have convinced you all of this, and that I have hitherto ſtudied your advantage equal, at leaſt, to the making the eſtate

better

better to those who shall come after me, and I am sure much more than any advance of the rent to myself.

'I assure you, I think it very encouraging, that you tell me what you have done makes so good an appearance already, even in this most extraordinary year, that the mouths of the country against new methods are a little stopped. I hope, in a little time, and with the help of a more favourable season, you shall get entirely the better of this difficulty; and it is not a small one, to have the weight of all the tongues of an idle talking country, censuring a young man at his first setting out in the world. Many a just and a good understanding has been talked down, and the honest undertaker sunk by the clamour of the wicked and malicious, joined with that of the ignorant mob.

'For my share, had I not received your letter, I designed to have written little more upon the subject of the tenants improvements, having heard of nothing but bad prices and difficulties, with which, though in my opinion sometimes they appeared easier answered than made, yet I was tired writing to people, to set them right in what I thought they might have found out with as little thought, as is required in the great mystery of two and three making five.

'There is not a doubt but the putting clover seed through a mill is the best way, if the millers will be careful in a thing that is *new*, and that it will bear the expence. The soils you call *duffie*, ought to be quickened with lime, (I believe hot or unslacked lime would do well) sand, hot dungs, or manure of such kinds. From what I have seen and observed, I incline to think that it is best to mix clover either small or great with rye-grass. The yellow hop clover I have observed do mighty well. It gives the grass a thick stool, helps to support the rye-grass, makes the hay fine and very nourishing food, and mends the foggage; so I am not for sowing rye-grass alone, where the land will bear yellow hop clover along with it; and I have this year seen good crops of the two together upon very poor land. Where you are to take only two years of good ground in clover, and turn it to corn again, I am not for mixing rye-grass with it. The small hop clover will make the stubbles very good, the most of winter, for sheep. I have seen very poor land, which had been run out with too many crops of corn, as is too frequent with us, laid down with small hop clover for sheep. I never approve of lands being brought to this pass; no farmer finds advantage, upon the main, by such husbandry; but if he will do wrong, this is the best mends he can make himself, since it yields some food for sheep, which otherwise it would not do; and their feeding upon it mends it a little. Your clover has enabled

enabled your cattle to work more, and yet will make them look better, than when ſtarved and idle. If you feed them in the houſe, you have their dung; if you feed them abroad, you have their dung laid, without more trouble, upon proper ground (for I reckon you feed them where you incline their dung ſhould do you ſervice); and your hogs will feed with them, or juſt after them, upon the refuſe of the clover which falls from the cattle. The more land you dung this year, the more corn and graſs you'll have next year, which will by degrees draw you into more cattle, which helps you ſtill to better crops; ſo if once you begin, it advances in a circle, the one year's product helping the next, and each increaſing the other, till you have more plenty of all; and when the land is brought into good caſe (to the doing of which dung is a great help) too dry or too wet and cold ſeaſons don't do quite ſo much hurt as when the land is very poor.

'You ſay the rye-graſs, ſown three years ago, does not anſwer this year; but I think if it did your cattle ſervice in winter, and that you ate it till the 20th May, you cannot complain. It may poſſibly (if you have hained it all ſummer, as graſs which hath been eaten ſo long ought to have been) be of ſervice to you in the end of the year; and if you have had early and late crops from it, your advantage is not leſs than if it had given you a crop of hay in ſummer. Soot, nor none of the hot dungs, laſt long; they naturally waſte ſoon, and if laid on thick would burn up the ground. Upon damp cold land they ſeldom fail raiſing one good crop, which yields more dung, whether when fed upon the ground or otherwiſe; ſo, they furniſh you with that ingredient for helping you to more good crops; though at firſt they produce but one themſelves, yet in the conſequence they do more.

'There is no doubt but that graſſes ſown with wheat will grow ſtrong by harveſt; but as the wheat ſtraw is of uſe for other things than feeding of cattle, it does not improve the ſtraw of wheat, as it would do the ſtraw that is uſed for food. I am of your opinion, that you may come to make wheat and rye bread as cheap as peas. Good crops of wheat are more frequent than good crops of peas. One acre of land will, if in good condition, for moſt part, yield much more wheat bread than that ſame acre will of peas; the labouring of the wheat is as cheap, if not cheaper, than that of the peas, the ſeaſon making it ſo for the moſt part. There is no compariſon between the two breads for wholeſomeneſs and goodneſs. Here they don't grind nor dreſs the flour ſo fine, when made for common bread for families, as is generally done in Scotland; for

for there they grind and dreſs all for fine bread; but, I ſuppoſe, with ſome pains, you may get it done to your mind at the mill. The wheat ſeaſon was ſo extremely good laſt year, that there was more of this grain ſown all over England, than ever was known; and if they had enjoyed good harveſt weather, they would have had a vaſt crop of it; though all corns, this year, will be thick-ſkinned and coarſe, by what they uſe to be in a dry year when there is ſun and heat. We have had very bad harveſt weather theſe ten days, which will ſpoil a great deal, and make much unwholeſome corn. As the demand lately from abroad has carried off much of the old ſtock, what is got well in, will give a price, if the great quantity of bad grain which muſt be quickly brought to market do not keep it down. Moſt of the farmers, however, will do pretty well upon the whole, having got a good price for the old, which, with the quantity they now have, will make up to them for the ſpoilt; but if they had got a dry harveſt, and ſo have had wheat firm and hard for exportation, they would have made vaſtly, and a great ſum of money muſt have come into the country from abroad. When it proves a bad wheat ſeed time, many keep their wheat land for barley, in hopes of a better ſeaſon then; but laſt wheat ſeed time invited many to ſow their land with wheat, which they had deſigned for barley, by which they ſaved labour (a thing too ſeldom reckoned upon with us), and being ſure of a favourable ſeaſon for wheat ſeed, they did not care to truſt to what was an uncertainty, and at a diſtance. I wiſh your harveſt may prove more favourable than it does to the farmers juſt now here. If it does, you will not repent having enriched your land enough for carrying wheat.

'Your turnips ought to have been hoed before this; that would have looſened the ground about their roots, and have helped them to ſwell; would have likewiſe killed the wild oats, muſtard, and other traſh, and been of great ſervice to your ground. I wiſh you had tried to ſow them at different times, ten days, or a fortnight's difference, to try which did beſt. They ſhould be hoed when the leaves are not ſo big as half a crown, and left at nine or ten inches diſtance the firſt hoeing. If, after hoeing, you find them not ſwell, the land will make good wheat about Michaelmas; for you need wait no longer than that time for their nipeing. I wrote ſeveral letters to my brother, and to Brown, about the method of burning of clay. I got information at different times; ſo no one of my letters can ſhow you all that I wrote. This has been a very unfavourable year for it; but I think the thing ſeems to carry reaſon, if an eaſy method can be found for burning it. You tell me one

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piece of your hedge does not thrive well. I believe the beſt method you can take, is to open the ground about the roots before winter, and ſupply, with new plants, what are gone; then lay a ſtrinkling of lime near to the hedge, but not touching the thorns; and the winter moiſture will carry the lime down through the looſe earth to the roots. I have been told that this does well, though I muſt confeſs I never ſaw it practiſed. You tell me alſo, that you have encloſed a garden. If you have not yet made any thing of it, I ſhall give you my opinion as follows. You may fallow it, or not, as you ſhall ſee cauſe; for you, being upon the ſpot, can judge better, than I at a diſtance, of the propriety or neceſſity of the operation. Firſt trench it all over fifteen or eighteen inches deep, and throw in a little dung at the bottom; then, in dry weather, feed cattle upon it of all kinds as you ſhall find convenient; the hogs may come laſt. If it is a deep clay, as I fancy it is, you may ſprinkle it over with aſhes, ſand, or gravel, to open the ground, which may be done before the cattle are put upon it, or after, as is moſt convenient. After this is done, and that the dung and piſs of the cattle have had ſome little time to ſink into the ground, delve it, and ſow as you have occaſion; and what you do not ſow preſently, ſhould be laid up in ſmall ridges, that the dung and earth may ferment and incorporate together, and that the ſun, air and froſt may get into it, letting it lye ſo till you have occaſion to uſe it. I don't adviſe your planting any fruit-trees except upon the walls, as they will cover and choke up ſo ſmall a piece of ground by the time they come to carry any quantity of fruit; and ſo you will loſe all the undergrowth, which I reckon is what will be moſt uſeful to you. If you plant fruit-trees upon the walls, let the borders be broader between the wall and every walk, than any of the borders are at the houſe of Ormiſton, otherwiſe you can never expect good fruit upon them. You muſt mix theſe borders with aſhes or ſand, to open the clay. This will agree with the trees better than any dung; for dung, and eſpecially freſh dung, does not agree with fruit-trees. Do not plant the trees too deep in the ground, and make the borders decline a little from the walls, that no wet may ſtand about their roots. If you manage your ground right at firſt, I dare ſay you will have all ſorts of roots and herbs for your pot in perfection. A neck of mutton made into broth, with herbs, roots, and ſome ſlices of bread, well-boiled, upon a ſlow fire, till the roots and meat are very tender, is a good diſh, and not expenſive. Inſtead of the bread, you may put in a little barley, and half a handful of meal, to thicken it a little. A pound or two of beef will make it much the better, and give a great deal more

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of it than the mutton alone. In ſhort, you will find roots and herbs in your garden, of advantage in your family many ways. I ſhall always be ready to anſwer you any queſtion, or give you the beſt advice I can: ſo, write freely, as you think the hearing from me can be of ſervice.——*Tottenham*, 18. *Auguſt* 1725.'

From the above it may be preſumed, that this celebrated improver met with the like obſtacles in his road, as have been felt by others who ſtepped out of the beaten path; and that it required all his patience and perſeverance to ſurmount the prejudice and obſtinacy even of his own tenantry. That thoſe who entered cheerfully into his views, and facilitated the ſyſtem which he had ſo much at heart, experienced his favour and approbation, will not excite ſurpriſe. The ſupine ſtate, into which the Scotiſh tenantry had then fallen, was not to be removed by ordinary means. In fact, they were the prey of ſloth, ignorance, and obſtinacy, and rivetted in chains not to be eaſily broken.

Highly pleaſed, however, with the ſucceſs of his firſt attempts, though made upon that part of his eſtate worſt calculated for introducing improved huſbandry, and anxious to extend the reformation to all, Mr Cockburn proceeded to grant leaſes to ſuch of his other tenants as he thought worthy of them; and very generous encouragement was held out, though not to the ſame extent as in the two firſt leaſes. The ſize of the encloſures, in particular, was contracted, which waſted much land, and increaſed the expence of making them; (an error probably occaſioned by his recent acquaintance with the huſbandry of South Britain), the fatal conſequences of which practice are now completely aſcertained. At this period, two farms, containing the beſt land about the village, were encloſed with hedge and ditch, rows of trees being planted on the banks, and alſo on ſuch parts of the lands as were unfit for the plough. In a little time, theſe fields, after being thus improved, were taken by the villagers at the rent of 22s. per acre, though formerly rented at 10s., and even that badly paid.

Mr Cockburn being anxious to have a malting, brewery, and diſtillery erected at Ormiſton, theſe works commenced in the year 1726, being undertaken by the above mentioned Alexander Wight, who received the moſt liberal encouragement from the proprietor in the execution of theſe undertakings. Pale malt, high-flavoured ale, and excellent whiſky were manufactured; all which contributed much to the promoting of agriculture in the neighbourhood.

The improvement of agriculture being now in a progreſſive ſtate, Mr Cockburn next turned his attention to the introduction of manufactures, knowing well that they were mutual ſupports

ports to each other. As a preliminary ſtep, he ſet about reforming his village of Ormiſton; made a plan of a neat, airy, regular ſtreet, to be filled up with the houſes of manufacturers and tradeſmen; and granted feus on moderate terms to all his tenants and cottars who chooſed to build houſes. Hence, a village was reared up in a ſhort ſpace of time, which to this day meets with admiration from every one that paſſes.

To promote the manufacture of linen, Mr Cockburn was warmly diſpoſed. He conſidered it as one of the ſtaple trades of Scotland, and as the beſt ſupport of the general intereſt. He viewed it as intimately connected with huſbandry; the land affording an opportunity for producing the raw article to the manufacturers; while they, in return, furniſhed hands for carrying on agricultural works, eſpecially in harveſt, and for the conſumption of its various produce. To attain theſe objects, an eminent undertaker, from Ireland, both in the manufacturing and whitening of linen, was induced to take up his reſidence at Ormiſton; and a favourable leaſe of the bleachfield and ſome lands in the neighbourhood was granted to him. This was the firſt bleachfield in this county—probably the ſecond in Scotland; for, before 1730, fine linens were ſent to Haarlem in Holland to be whitened and dreſſed. A piece of ground, in feu, was given to the undertaker, for building a dwelling and ſuch other houſes as were required to accommodate the manufactory. Influence was alſo exerted with the Honourable Board of Truſtees for Manufactures in Scotland, and pecuniary aid obtained from them in ſupport of the infant manufacture.

As, in theſe days, people at home were unacquainted with the operations of a bleachfield, ſeveral experienced hands were brought from Holland and Ireland to execute the labour of this new undertaking. Such met with liberal encouragement from Mr Cockburn and his tenants. The growth of flax forming an eſſential part of the new eſtabliſhment, Mr Cockburn obtained premiums from the Truſtees to encourage its culture, and an annual ſalary for an eſtabliſhed lint-dreſſer and heckler. A ſchool for teaching young girls to ſpin linen yarn, was alſo erected, under the direction of a qualified ſpinſtreſs, who received a ſuitable ſalary for her trouble in educating them. Hence a conſiderable quantity of linen yarn was ſpun upon the ſpot, which ſupplied the manufactory with materials of the beſt quality.

About the year 1736, the progreſs of agricultural improvements at Ormiſton had excited ſo much notice over all Scotland, that Mr Cockburn, always awake to every circumſtance which could forward his darling object, ſeized upon ſuch a notable opportunity of diſſeminating uſeful knowledge among his brother proprietors

proprietors and their tenantry. He inſtituted a club or ſociety compoſed of noblemen, gentlemen and farmers, who met monthly for the diſcuſſion of ſome appropriate queſtion in rural economics, ſettled upon at their former meeting, on which queſtion all the members preſent delivered their opinions;—an inſtitution which ſubſiſted for above ten years, and perhaps was ended by the circumſtances under which the country was then placed. The firſt minute bears date 19th July 1736, and the laſt 4th May 1747; the whole proceedings being highly intereſting to the country, and honourable to the Society who originated them. In ſhort, the fame of this Society ſpread far and wide, and occaſioned many noblemen and others at a diſtance to ſolicit admiſſion as members. A liſt of the members of this meritorious Society, as extracted from the minute-book, ſhall now be given. Certainly it would be a proud day with the father of Scotiſh huſbandry, when he met with ſuch a number of practical agriculturiſts, all eagerly diſpoſed to liſten to the benevolent inſtructions which he was ſo well diſpoſed and qualified to communicate.

Liſt of Original Members of the Ormiſton Society, with Copy of their Minute, July 19. 1736.

John Cockburn of Ormiſton.
Thomas Anderſon of Whiteburgh.
William Jamieſon, merchant, Leith.
James Hepburn, younger, of Humbie.
Andrew Broomfield of Duncrahill.
The Honourable Hew Dalrymple of Drumore.
George Torrence, tenant in Peaſton.
William Wilſon, tenant there.
James Walker, tenant in Pardovan.
James Walker, junior, there.
Alexander Wight, tenant in Ormiſton.
Alexander Wight, tenant in Couſland.
John Wight, tenant there.
Alexander Wight, tenant, Eaſtfield of Ormiſton.
Charles St Clair of Hermiſton, advocate.
Patrick Cockburn Eſq. advocate.

'We, whoſe names and deſignations are above ſet down, taking into our conſideration that the erecting and inſtituting a Society in order to the better improving our country with reſpect to agriculture and manufactures, would be a laudable undertaking, do, for that purpoſe, enter and become members of the ſaid Society, and we are to aſſume and receive ſuch other perſons into

to the ſaid Society as we ſhall judge proper to be admitted members thereof, according to ſuch rules as we ſhall hereafter agree upon for that purpoſe.'

The firſt meeting of this laudable deſign was held, 26. July 1736,—Mr Cockburn chairman, when the rules of the Society were framed and agreed to. Thereafter the Society continued to meet regularly; and a queſtion, relative to huſbandry or manufactures, was propoſed for diſcuſſion at next meeting, which was uniformly conſidered and diſcuſſed, as appears from the minutes of the Society; and many new members were propoſed and admitted by ballot, a liſt of whoſe names are here annexed.

Lord George Hay.
William Congalton, younger, of that ilk.
The Laird of Dundaſs.
James Campbell of St Germains.
Sir John Inglis of Cramond.
Sir John Dalrymple of Cranſton.
Robert Anderſon, younger, of Whiteburgh.
John Watſon of Muirhouſe.
Richard Dundaſs of Blair.
George Brown, younger, of Coalſton.
Sir Robert Dickſon of Carberry.
Joſeph Douglaſs of Blackſhiels.
Archibald Robertſon in Tranent.
John Drummond in Ormiſton.
Mr Scott of Roſſie.
The Earl of Stair.
Colonel James Gardner of Bankton.
John Nairn at Winton.
John Campbell, Collector of Cuſtoms, Preſtonpans.
William Douglaſs, farmer in Blinkbonny.
Richard Cheſſels, farmer at Carberry.
William Bailie, factor for the Laird of Lamington at Penſton.
Sir John Sinclair of Longformacus.
Mr Wauchope of Edmiſton.
Mr William Wauchope, brother to the Laird of Niddry.
Archibald Tod, writer in Edinburgh.
James Skirvine, tenant in Ewingſtone.
John Chriſty, linen-draper in Ormiſton.
Sir Hew Dalrymple.
John Stiell.
George Cockburn, younger of Ormiſton.
Sir Charles Gilmour of Craigmillar.
Sir John Baird.
Sir James Hall.

Mr

Mr William Baird.
John Mitchelſon of Middleton.
Mr David Baird.
Alexander Arbuthnot of Knox.
Charles Hay of Hopes.
The Laird of M'Leod.
Mr Cockburn of Clerkington.
Mr Juſtice of Crighton.
George Livingſtone, Depute-clerk of Seſſion.
John Rutherford of Bowland.
James Craig of Coſtarton.
Baillie Smart of Muſſelburgh.
Lord Lindores.
Andrew Gardner, merchant, Edinburgh.
George Buchan of Cumledge.
Duke of Perth.
Mr Rutherford of Fairnielie.
Dr Rutherford.
John Carfrae, tenant in Park.
Mr George Drummond.
Robert Wight, Eaſter Hailes.
George Ronaldſon, Dodridge
Andrew Wight, Ormiſton.
Ninian Jeffrey, Dalkeith.
Lewis Gordon of Gordonhall.
Thomas Gardner, merchant, Edinburgh.
John Dods, overſeer of Mr Cockburn's country affairs.
Mr Anderſon, younger, of Adniſton.
Robert Wight, Muirhouſe.
Francis Walker, Mainshill.
Mr Keyſar, lintdreſſer from Flanders.
Archibald Cuthbertſon in Adniſton.
Mr St Clair in Seton Mains.
James Wilſon in Peaſton.
Adam Inglis Eſq. younger of Cramond.
James Burnet Eſq. younger of Monboddo.
Mr White of Crichneſs.
Mathew Haldane, farmer, Buxley.
Bailie David Wight, farmer, Weſt Byres.
Robert Maxwell of Arkland.
James Cuthbertſon, farmer, Langniddry.
Baron Clerk.
Sir William Dalrymple.
Mr Hamilton of Fala.
Mr Howiſon of Braehead.

Robert Turnbull in Newtonhall.
Robert Pringle Esq.
Thomas White, manager of Sir William Dalrymple's grounds.
Captain Maitland.
100 George Park in Blackhouse.
Mr Buchan of Kello.
William Watson of Pilmore.
Charles Mackie, surgeon, Ormiston.
William Swinton, merchant, North Berwick.
John Baillie in Penstone.
106 James Wight in Ormiston.

Without entering at greater length, in this article, upon the proceedings of the Society, it may be stated, that in the year 1739, premiums for raising flax were advertised in the newspapers, and distributed by the Society to the gainers thereof, in terms of their advertisements. In the same year the Society petitioned the Board of Trustees to get home Riga lintseed, and to appoint a proper person from Holland to settle for some time in this country, to instruct people in the way of watering and grassing lint properly. And in 1742, samples of lint were produced and submitted to the inspection of judges, who declared them equal to any imported from Holland for several years preceding that period.

If men of rank and fortune would thus employ their time and talents in promoting the public good, what inestimable blessings might not society derive from their exertions. We here see how much was accomplished by one individual, whose means were very limited; therefore may judge of the extent of the benefit that would be gained, were all animated with principles equally patriotic and liberal. The like necessity, perhaps, does not exist, at this day, for the execution of measures similar to those undertaken by him for introducing and disseminating improvements; but every proprietor has it in his power to promote the comfort and prosperity of those placed below him. To him alone they are naturally disposed to look up for protection and support. If he treats them with leniency; if he is interested in their welfare, and regards them as men, though placed lower in the scale of life, then a reciprocal return may safely be expected. Proprietors, who act in this way, really and truly preserve the full benefits of the feudal system, though the system itself has been legally abolished and overturned.

Mr Cockburn died in the year 1747; and shortly thereafter the estate of Ormiston was sold to the late Earl of Hopetoun by his son George Cockburn Esq. afterwards comptroller of the navy.

While

While it is painful to ſtate that this property was renounced by a family, who for centuries had deſerved ſo well of their country, it is ſome comfort to reflect, that the purchaſer was alſo of a branch to whom the agriculture of Scotland has been, and continues to be, under great obligations, as might be inſtanced by the caſe of the barony of Byres, where improving leaſes were granted many years ago. But we muſt ſtop, as the article already exceeds our common bounds. In a word, the name of JOHN COCKBURN will not ſoon be forgotten in Eaſt Lothian. His numerous ſucceſsful attempts to promote the proſperity of the country are rivetted in the hearts of its inhabitants, and will be handed down from father to ſon for many ſucceſſive generations. When the whole of his life is conſidered, we are warranted to pronounce him the father of Scotiſh huſbandry, an ornament to his country, and an honour to the county of Eaſt Lothian which gave him birth. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Impolicy of Impoſing Perſonal and Predial Services upon the Tenantry of Scotland.

SIR,

THE attention paid to ſome deſultory hints which I lately tranſmitted, has encouraged me to ſend you a few more. Engaged at preſent in purſuits very different from thoſe that form the chief objects of diſcuſſion in your Magazine, all I can do is, occaſionally to offer a few ſuggeſtions on general ſubjects.

I have been led to the ſubject of the preſent communication, by the correſpondence of your valuable and reſpectable friend Mr Dempſter, in the 14th Number of the Magazine, where he deſcribes the ſervices that are performed by tenants to their landlords in his neighbourhood. Mr Dempſter ſays, although he has diſcontinued the practice himſelf, and recommended the diſcontinuance to his neighbours, for a long period of time, that he has nevertheleſs been a very unſucceſsful appoſtle; as the tenants around him are ſtill obliged to cut down their landlord's crops, while their own is perhaps ſhaking out of the ears with ripeneſs.

Now, as I have always underſtood that the county of Forfar, in which Mr Dempſter lives, was as well cultivated as any in Scotland; as I myſelf remember to have ſeen moſt ſucceſsful, and apparently excellent ſpecimens of highly improved agriculture in that county above twenty years ago; as it was there that Mr Scott of Dunnuauld gave one of the firſt examples of good farm-

ing ever ſeen in Scotland; and as it was there the late Lord Strathmore exhibited a moſt extenſive plan of improvement, I little expected to find complaints of ſuch a barbarous practice prevailing in that country in the beginning of the 19th century. If ſuch prevails in Forfarſhire, we may reaſonably infer that it prevails, to a much greater extent, in other and leſs improved diſtricts, where the true principles of good farming are more imperfectly underſtood.

Mr Dempſter's character, for zeal, public ſpirit, and comprehenſive obſervation, is ſo well eſtabliſhed, that any remark, falling from him, comes with double weight; and his obſervation, accordingly, ſtruck me moſt forcibly. If the ſtatement be juſt, which there is no reaſon to diſpute, your numerous and intelligent correſpondents may talk in vain about the improved ſtate of agriculture in Scotland. Your publication may be honoured and enriched with the correſpondence of Lord Sommerville, Sir John Sinclair, Mr Dempſter, Sir Archibald Grant, Sir George Mackenzie and many other highly diſtinguiſhed and patriotic characters; Mr Findlater may expatiate on the moral incitements to farming, with a degree of eloquence and ſtrength of reaſoning worthy of Adam Smith; and all this to little purpoſe, ſo long as the tenantry of Scotland are kept in a ſtate of dependence and thraldom ſuited to the moſt rigorous period of the feudal ſyſtem.

I never viewed your Magazine as ſo much calculated to inſtruct the intelligent and independent farmers in diſtricts already well cultivated, as thoſe in more remote diſtricts, where the approved ſyſtems of agriculture were either leſs perfectly underſtood, or not practiſed at all. I conſider the chief deſign of your publication is to expoſe, and if poſſible to eradicate, bad practices, ſanctioned by length of time, and invariable cuſtom, in whatever part of the country they exiſted; and if this view be correct, I am ſure there cannot be a more fertile topic for poignant ridicule, or a more prominent ſubject for acrimonious cenſure, than thoſe barbarous and Gothic ſervices ſtill paid by the tenants in many diſtricts of Scotland, under the name of *Boon-work*.

Such ſervile offices are ſo little known in England, that I do not ſuppoſe their meaning can be properly comprehended there; or, if underſtood, they muſt be held in ſcorn by the more liberal-minded landlords. What idea would the late Duke of Bedford have formed, or what idea muſt Lord Winchelſea, or Lord Egremont, or Mr Coke of Norfolk, and many others of the enlightened farmers in England, form of the ſtate of agriculture in Scotland, when they ſee that the tenants are bound by their leaſes to cut down

down the corns of their landlord, when their own crops may ſtand in the fields, liable to be ſhaken by wind, or rotted by rain? Would not any perſon who had not heard of the fact before, agree with Mr Glover in the character which he gave of the Scots; when, being ſent down to that country about thirty years ago, to inquire into the affairs of the famous Ayr Bank, he ſaid, in his report to the Houſe of Commons, 'that he found the Scots poſſeſt all ſorts of ſenſe but *common ſenſe?*'

What I would therefore beg leave to requeſt is, that ſome of your intelligent and reſpectable correſpondents would ſet the unreaſonableneſs and abſurdity of all thoſe menial ſervices, which I believe are called, in Scotland, *Boon-work*, in their true point of view; and, if poſſible, expoſe and extirpate ſuch baneful and pernicious cuſtoms from the ſyſtem of rural œconomy altogether. The bad effects of theſe need only be mentioned, to be univerſally acknowledged. And were an honourable gentleman, who ſome time ago ſucceeded to a very large eſtate in Forfarſhire, to renew his leaſes, with theſe ſlaviſh conditions annexed to them, it would rivet the cuſtom in that part of the country, for perhaps the next twenty years, and ſet a very bad example to the whole of Scotland.

All ſorts of ſervices performed by the tenant to the landlord are bad; but ſurely thoſe that go under the name of harveſt work, and are claimed at the moſt valuable and perilous ſeaſon of the year, are the worſt. What avails it for a tenant to encloſe his land; to put it in good heart; to labour it after the moſt approved mode, and to be at the expence of good ſeed wherewith to ſow it, when it is perhaps put out of his power to embrace the proper time to reap it? Finally, as all ſuch practices have their origin in ſlavery, and their continuance in ignorance; as they have for their conſtant attendants, poverty and dependence, it is high time that they ſhould be aboliſhed and eradicated; and I cannot conceive that a portion of your valuable Magazine can be applied to a more beneficial purpoſe, than in endeavouring to bring about ſo deſirable an end. I am, &c.

AMICUS SCOTIÆ.

London, 22d December 1803.

NOTE BY THE CONDUCTOR.

We are greatly obliged to *Amicus Scotiæ* for the above communication. The obſervations made are, however, of ſuch a ſerious nature, that we would hardly have felt ourſelves juſtified in

laying them before the public, had not the reſult of our inquiries in a great meaſure accorded with the ſtatement he has given. Before going farther, it is proper to explain, that the picture drawn can apply to few of the cultivated diſtricts in Scotland; and it muſt excite ſurpriſe, that a ſingle trait thereof is applicable to Forfarſhire, where undoubtedly a ſpirited and ſucceſsful huſbandry extenſively prevails.

All ſervices impoſed upon tenants are leſs or more injurious to them, and, in a proportional degree, unfriendly to the landlord's intereſt. Services muſt however be diſtinguiſhed under two heads, 1. Thoſe that can be paid by the tenant without ſubjecting him to any material inconveniency, ſuch as driving coals for his landlord's uſe, and paying *kain* hens. 2. Work performed for the landlord at ſeed-time and harveſt, which neceſſarily proves highly pernicious to both parties, becauſe it is exacted at periods when every nerve of the tenant ought to be ſtrained in cultivating and ſecuring his own crop. Services of the firſt deſcription may be eaſily diſcharged: the chief objection we have to them is, that they are generally brought forward after the rent is agreed upon, by way of *addenda*, or becauſe ſuch things have, by conſtant uſage, been levied upon the tenantry of the eſtate. Thoſe of the ſecond claſs are groſsly unjuſt; in fact, they operate againſt the landlord himſelf, by preventing the tenant from ſowing and reaping the very crop, from the produce of which the agreed rent is to be furniſhed. We preſume it is againſt ſuch that our correſpondent's arguments are directed; and aſſuredly he could not have erected his battery againſt any other fortreſs which really and truly called for a more ſpeedy demolition.

We believe that Scotiſh proprietors, generally ſpeaking, are actuated by principles ſimilar to thoſe we have noticed; that is, they reſtrict ſervices to driving a few coals, and paying kain hens; and it is conſiſtent with our perſonal knowledge, that in numberleſs inſtances, even theſe are commuted into a money payment. That it would be better, were every kind of ſervice or payment in kind given up, we cheerfully grant; but ſo long as ſervices are confined to thoſe we have mentioned, the evil is not of magnitude. We are none of thoſe who are diſpoſed to limit the power of proprietors in caſes which do not affect the proſperity of agriculture; and in this inſtance, the burden is ſo trifling, as neither to leſſen the welfare of individuals, nor impede the progreſs of improvements. None of theſe things, however, can be urged in ſupport of the ſecond claſs of ſervices. We are free to ſay, that they are ſo impolitical and injudicious as to call for legiſlative interference, in the event of being retained by proprietors.

Perhaps

Perhaps ſuch ſervices originated from the poverty of the tenantry in former times, and the ſcarcity of a circulating medium. Be this as it may, they have generally been laid aſide when improvements were introduced; and it is to be hoped that a juſt view of their hurtful conſequences will, in a little time, cauſe them to be totally abandoned. Even ſtatute labour, when exacted in kind, is ſo oppreſſive to the tenantry, that many counties have changed it into a money payment. We ſhould be glad to learn, whether this relief has been granted in England.

We are not afraid, that either proprietors or tenants of Scotland will ſuffer by an appeal to the great characters condeſcended upon by our correſpondent. That the tenantry of Scotland have ſome difficulties to encounter, we allow; that their general ſituation might be ameliorated, we do not diſpute; but that the nature of the connexion betwixt the proprietors and them is formed upon more liberal principles than thoſe acted upon in our ſiſter kingdom, we ſtrenuouſly maintain. Let *Amicus Scotiæ* look to the clauſe in the majority of Engliſh leaſes, wherein the tenant is taken bound to pay all parliamentary and parochial taxes already impoſed *or to be impoſed*. Let him reflect upon the baneful conſequences of the tithe ſyſtem, which cut equally deep upon the intereſt of landlords and tenants. Let him conſider the pernicious effects of the poor-laws, which threaten to eat up property altogether, without materially benefiting the lower ranks. We ſay, let him reflect upon theſe matters, and declare, whether *common ſenſe* is a more plentiful commodity in the one country, than in the other. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on certain Obſtacles to Improvement.

SIR,

THAT the adoption of an improved ſyſtem in the management of landed eſtates would greatly increaſe our population and national ſtrength, is a poſition that will ſcarcely be contradicted: it therefore muſt give every true friend to his country much concern, that a different ſyſtem is purſued by ſo many of our landed proprietors; and, with your permiſſion, I now propoſe to offer ſome remarks on this ſubject.

In the courſe of pretty long and attentive obſervation in different parts of the country, it has ſtruck me very forcibly, that the moſt important improvements have been effected, and the great-

eſt produce raiſed, where the occupiers of land are in poſſeſſion of great capital and abilities; and finding this opinion corroborated by men whoſe judgement and experience cannot be doubted, I will lay it down as a *principle*, that the average produce of land is in proportion to the capital and abilities employed in its management, or, in other words, to the labour and manure which, under a ſkilful director, are beſtowed upon it. Now, let us inquire whether our preſent ſyſtems of occupancy, &c. offer as great encouragement to men of capital and abilities, as commerce, manufactures, &c. In theſe employments, capital not only returns a great profit, but enjoys perfect freedom and ſecurity under the ſole direction of its owners, who reap the *undivided* fruits of their ſkill, induſtry and enterprize. That this is not the caſe with the occupiers of land, is a lamentable truth; for in many parts of the iſland they are *generally* tenants at will, and conſequently the landlord's *dependants*. Under ſuch circumſtances, the farmer has not a fair proſpect of enjoyment; for he cannot but be under conſtant apprehenſions of ſuch occurrences as will lead to his removal from his farm, or an advance of rent; and, where there is not a certainty of the tenant's enjoying the fruits of his induſtry and expenditure, it is abſurd to expect ſubſtantial and permanent ameliorations. Beſides, the enlarged mind of a man of capital and ability revolts at the idea of becoming the vaſſal of, or at being put in trammels by any man. Hence, farmers holding under ſo inſecure, and in every reſpect ſo diſagreeable a tenure, are, in almoſt all caſes, deſtitute either of the neceſſary capital or abilities, and generally of both. Leaſes for five to nine years are liable to nearly all the objections which may be urged againſt holding at the will of the landlord. Where buildings, encloſures, drains, &c. are already in a proper ſtate, and where the condition of the land enables the tenant to reap *immediate* profit, leaſes for fifteen or ſixteen years, may without much injury prevail; but where houſes and dikes are to be raiſed, materials carried by the tenant, impoveriſhed lands enriched, and draining and other expenſive management purſued, in order to effect ſubſtantial and permanent improvements *, leaſes for a term of twenty-one to twenty-five years are indiſpenſable. Under ſuch a tenure, granted on ſuitable conditions, more eſpecially if the farm be large, a proper field is poſſeſſed for the diſplay of genius, induſtry, and enterprize, and for affording to the tenant a bright proſpect of enjoyment. Here we diſcover encouragement for the inveſtiture of capital, ſimilar to that preſented in trade and manufactures; conſequently, ſuch a ſyſtem muſt be beneficial to the country.

In

* Such improvements (every man of experience knows) afford but a *ſlow* return.

In ſupport of this ſyſtem, we may appeal to what is more convincing than arguments—*to facts*. Let any impartial man of judgement compare the capital, abilities and produce of thoſe diſtricts which are divided into ſmall farms, or held by tenants at will, or under ſhort leaſes, with thoſe of diſtricts in which large farms and long leaſes prevail, and he will find a vaſt ſuperiority in the latter. Indeed, Sir, nothing is better known, by attentive agriculturiſts, than that all our great improvements in huſbandry have been diſcovered, and, beyond all compariſon, moſt beneficially practiſed, both for the occupiers and the public, in the latter diſtricts. It is in theſe, not only that the greateſt produce is raiſed, but that the greateſt proportion of that produce can be ſpared for the market; which circumſtance alone enables the farmer to afford more rent: And, that the greateſt advance upon farms has taken place, where they are large, and held under the ſecurity of long leaſes, is ſupported by experience in every part of the country. It has, however, been advanced againſt large farms, that they enhance the price of proviſions, and leſſen the number of inhabitants. In Mr Secretary Young's pamphlet on the late ſcarcity, and ſeveral other publications, ſatisfactory refutations of the former doctrine may be found; and when we advert to the large capital employed, the ſuperior management purſued, and the great number of labourers neceſſarily employed on theſe farms, and that on them married ſervants with large families, cows, &c. are preferred, whereas the occupiers of ſmall farms not only do not improve in the ſame degree, but employ unmarried ſervants, we will readily perceive that large farms are favourable to population. I do not, however, contend for the great conſolidation of farms, or aſſert that they may not become too large. What I contend for is, that, at preſent, they are generally much too ſmall, and held under too diſagreeable a tenure, to attract capital and abilities from commerce. Here I beg to ſay, that I entertain no ideas hoſtile to trade and manufactures. Their importance I cheerfully concede. But is it not inferior to that of agriculture? And until the latter receives more attention and encouragement, and till our population is more full, can they be ſaid to reſt on that ſolid and permanent foundation they well deſerve?

If a man concerned in commercial and other employments, chooſes to relinquiſh theſe purſuits and inveſt his capital in agriculture, no legal impediments ſtand in his way;—he may do ſo with perfect facility. But when we conſider that, in almoſt all caſes, leaſes are granted to *executors* and *adminiſtrators*, and contain clauſes againſt ſubſetting, we will ſee that the occupiers of land cannot accompliſh ſuch a change without the conſent of their landlords;

landlords; ſo that if a tenant doubles the value of his farm, by great and expenſive improvements during the firſt ten or twelve years of a 21 years leaſe, and ſhould *then* diſcover the greateſt and moſt ſtriking advantages in relinquiſhing his agricultural, and embracing other purſuits, either he muſt obtain the landlord's permiſſion to ſubſet; ſubmit to the unprofitable management of an overſeer at, perhaps, a great diſtance; ſacrifice his whole property in the leaſe, or aſſign his right therein to the landlord, ere he can engage in the other purſuit. If, inſtead of engaging in more lucrative concerns, we ſuppoſe the demiſe of the tenant to take place at the expiration of the above ten or twelve years, and that his deſcendants or other heirs are all engaged in more profitable and congenial concerns than thoſe of agriculture, either his executor (if he makes a will) or his adminiſtrator (if he dies inteſtate), muſt commence agriculturiſt, obtain the landlord's conſent to alienate, or be ſubject to the diſadvantages already mentioned. In ſuch caſes, the leaſt of two evils is choſen; and if the proprietor of the land perſeveres in refuſing his conſent to ſubſetting, the leaſe is diſpoſed of to him at, generally, about one third or one half of its real value, and, in many caſes, for little or nothing.

Theſe circumſtances operate againſt ameliorations in two ways; firſt, by deterring tenants, in many caſes, from engaging in very ſubſtantial and expenſive improvements, under an idea that they may, *eventually*, become of little or no utility to their heirs, or even to themſelves; and, ſecondly, by preventing the employment of greater capital and abilities, which would, under more favourable regulations, be attracted from trade, and devoted to rural concerns. It can make no difference, of conſequence, to the landlord, whether he receives his rent from the perſon that originally took the farm, or from a tenant to whom it is ſubſet; his right to diſtrain is in both caſes the ſame; the covenants of the leaſe, aided by the intereſt of the tenant, prevent deterioration; and when the aſſignment is made ſoon after the commencement of the leaſe, the new, as well as the original, occupier, will be excited, by intereſt, to improvements.—In ancient times, when tenants were bound to accompany their landlords to the field of battle, (when clauſes againſt ſubſetting originated), a ſtrong and good ſoldier, though but an indifferent cultivator, might be deemed the moſt deſirable tenant; but in modern times, it appears immaterial whether the perſon of the occupier be ſtrong or weak, well made or deformed, provided his capital and abilities are equal to the judicious management of his farm; and it is clear, that when the landlord prevents the introduction of a good farmer—

perhaps

perhaps a more worthy and judicious one than the executor or adminiſtrator of a deceaſed tenant of his *own chooſing*, he is actuated by ſome unjuſtifiable motive—perhaps by a wiſh to obtain property to which he has no equitable claim.

Much has been advanced againſt tenants being left at liberty to ſubſet. * In ſome parts of Great Britain, however, (though very few), ſuch liberty is conceded by the landlord at the taking of the farms; and I have not been able to diſcover that any injurious effects have reſulted from it, either to the ſoil, the occupiers, or the proprietors. Indeed, *in ſuch a country*, ſuch liberty will ſeldom or never be acted upon, but on particular occaſions, where the expediency and neceſſity of exerciſing it are obvious. I am ſorry to remark that there is too much reaſon to believe that nothing is more diſagreeable to many of our landholders, than to hear of their tenants acquiring any conſiderable property in the occupation of their farms: their *own intereſts*, however, incontrovertibly require the accumulation of a great agricultural capital. Conſequences of a momentous kind depend on the 'ſchemes of huſbandry.' Let us therefore inveſtigate this part of the ſubject, and the agricultural knowledge of thoſe by whom ſuch ſchemes are drawn up. Till within a few years of the expiry of the term, reſtrictions on the management of able and prudent tenants are unneceſſary; for their ſyſtem, during the other part of the term, is (in order to promote their own intereſt) nearly the ſame as that which land agents of the greateſt judgment and experience would preſcribe. It muſt, however, be admitted, that, near the expiry of the term, either there is a ceſſation of meliorating management, or ſome excitement to deterioration; and that reſtricted management may be uſeful to the landlord and the community. But perhaps their intereſts, and likewiſe thoſe of the occupiers, are better promoted by the landlord's granting a new leaſe, on proper conditions, a few years previous to the expiration of the term. This would ſecure ſome of the advantages which Lord Kaimes had in view, and ſeems well worth the attention of landholders. Seeing, then, that properly preſcribed management is not

* Many contend, that very injurious effects have reſulted from ſubſetting, in Ireland. On the ſtate of that country I cannot venture to ſpeak with much confidence; and therefore beg *your* aſſiſtance. But from all I have heard on the ſubject, I am much inclined to believe that the ſubſetting, in queſtion, ariſes from the neceſſities of moſt of the Iriſh landlords, and the almoſt univerſal poverty of the tenantry (which make the 'middle men' neceſſary). In other words, that theſe unpropitious circumſtances are the *cauſe*, and not the *effect*, of the extenſive ſubſetting which prevails in that part of the kingdom.

not injurious in the caſe of good tenants, and that in ſome caſes it may be mutually advantageous to the landlord and occupier, it does not appear to be ſubject to thoſe objections which have been urged againſt it. It ſhould, however, be drawn up by maſters in the art; embrace the moſt approved modes of management; allow the tenant ſufficient latitude to act under extraordinary and unforeſeen circumſtances, and to adopt ſuch improvements as may from time to time be introduced into the art of huſbandry, &c. But, inſtead of ſuch men being employed, what is the fact? Why, that a great proportion of our land agents are lawyers, totally ignorant of agriculture and rural affairs;—men who poſſeſs none of the requiſite qualifications of ſuch ſtewards, except thoſe of being able to draw the legal parts of a leaſe, (which moſt men of common underſtanding may learn to do in an hour); to receive and remit rents, and proceed againſt the tenants for deviating from the agreements, which theſe gentlemen draw by an old form that virtually interdicts moſt of the valuable improvements in agriculture. The conſequent miſerable occupation of a great part of our lands, cannot but raiſe indignation againſt its authors, whoſe ignorance hath bound up the energies of the farmer, and condemned our ſoils to comparative ſterility. Beſides lawyers, there are, in many parts of the country, landſtewards, totally unfit to determine the moſt advantageous modes of management, and in almoſt every reſpect unqualified for ſuch important employment, unleſs it be deemed a part of their duty to tyrannize, like a Turkiſh baſhaw, over all the people upon the lands to which their authority extends.

It may be neceſſary to prevent the manure from being taken off the premiſes; to bind the tenant to the application of lime, or other calcareous ſubſtance; to have at leaſt a certain proportion of the land in graſs (properly laid down with a ſufficient quantity of good ſeeds) near the expiry of the term; to leave a certain proportion of the tillage land for fallow, or a fallow crop, for the next tenant; to allow the latter to ſow graſs ſeeds among a part of the way-going tenant's crop of corn, and plough the land intended for fallow; not to uſe any of the dung raiſed from the crop immediately preceding the expiration of the term (provided the way-going tenant reaped a ſimilar advantage at the commencement of his leaſe); not to convert certain very productive grazing paſtures into tillage, without a licence, &c. &c.; —but to bind the tenant to keep land in tillage which has been in a ſtate of conſtant aration for 50 to 100 years, (or at leaſt to prevent his ploughing it after being ſown with artificial graſs ſeeds); and to continue any but very productive grazing paſtures in old graſs,—is highly injurious to the occupier, the public, and the

the landlord. Yet, alas! this is the very ſyſtem which is purſued in many parts of the country. Every man of experience well knows, that the ſupplies of human food, which can be raiſed under it, are comparatively ſcanty; and that, under a proper rotation of crops (permitting artificial graſſes to be a part of them) lands impoveriſhed by long aration, become, in no great ſpace of time, very fruitful.

Akin to the ſyſtem I have juſt mentioned, is that which not only virtually compels the diſpirited farmer to continue his exhauſted land in tillage, but to lime it every third year. Although many practical and ſcientific agriculturiſts differ in opinion as to the *modus operandi* of lime, yet all men of judgment and experience agree in ſtating that its good effects are moſt diſcernible in freſh lands impregnated with vegetable matter, and which have never, or for a conſiderable time, been limed; that its application, every third year, without dung (a ſcarce article under ſuch management), to land which has been long in tillage, and frequently limed, is of no utility, and, in ſome caſes, hurtful. The condition of large tracts of moor, and waſte lands capable of much improvement, I ſhall not place entirely to the account of landlords and land-agents, tithes being, in my opinion, the principal cauſe of their being continued in their preſent unproductive and diſgraceful ſtate; but for the miſchievous effects of this tax, and the beſt plan of accommodation which has yet been offered to the public, I refer to the able letter in your Number for February laſt, ſigned 'A Friend to Improvements.' The ſtate of commons; the cuſtom of allowing large quantities of hay and ſtraw to be conſumed, or rather moſtly waſted, by cattle, in the fields, inſtead of being properly uſed in houſes and fold-yards for raiſing as much manure as poſſible, and many other inſtances of injudicious management, may be adduced. Truſting, however, I have already ſaid enough to ſhow that, in many parts of the country, the management of landed eſtates is very defective, and that the encouragement for the inveſtiture of capital in agriculture, is far from being ſo great as that which is held out in other employments, I ſhall not at preſent enumerate them. Let it ſuffice to ſay, that if the whole were particulariſed, they would, in all probability, induce many impartial agriculturiſts to conclude, that huſbandry is an employment which it is deemed good policy to repreſs. The *loud* acknowledgments of its importance, which were made by *ſome* of our landholders during the late alarming ſcarcity of corn, and their promiſed ſupport of agriculture, I am apprehenſive (when I conſider the diſcordancy between profeſſion and practice) we can place but little reliance upon. Indeed, Sir, a cynic would inſiſt either on a total want of ſincerity, or that the agriculture of Pruſſia was alluded to.

Yet,

Yet, under all the diſadvantages of defective management, (which is ſtill greater in Ireland), our two iſlands employ and ſupport about ſixteen millions of people. It is therefore reaſonable to conclude, that if our management, *throughout*, was equal to that of ſome of the beſt cultivated diſtricts, Great Britain and Ireland could ſupport a population of between twenty-two and twenty-four millions. This idea is greatly corroborated, if not confirmed, when we calculate on the quantity of our good, bad, and indifferent land, the produce of each kind under proper management, the conſumption of each inhabitant, and that of the neceſſary number of labouring and other horſes, &c. Such an increaſe of population would *virtually* be equal (and without the diſadvantages of a more extenſive frontier) to what our neighbours have gained by other means—*a great increaſe of territory*. The vaſt importance of meaſures calculated to produce ſo propitious an effect, is exceedingly obvious; but, recollecting the title of your publication, I ſhall not inquire whether they are more ſo *now*, than at any former period of our hiſtory.

What remedies ſhould be applied to evils which prevent a rapid increaſe of our population and proſperity, ſhould become ſubjects of diſcuſſion among our legiſlators and ſtateſmen; and, fortunately, many landholders, and ſome of our leading ſenators, have embraced the practice of huſbandry on a large ſcale. The acceſſion of Mr Pitt's abilities to the great cauſe of agriculture, was announced in one of your Numbers; and I am informed by a correſpondent in Northumberland, that another diſtinguiſhed ſenator (Mr Grey) devotes a conſiderable portion of his time to the management of about one thouſand acres of excellent land around his ſeat, at Howick, in that county. Such conduct does them much honour. The forces of ancient Rome conquered the world. The Romans, however, were not more diſtinguiſhed in arms than in agriculture; and ſeveral of her great generals and ſenators participated in the practice of huſbandry, and actually put their hand to the plough. The abilities of Mr Pitt and Mr Grey have been much tried in the cauſe of reform: May their agricultural purſuits unfold to them the great neceſſity of, and their patriotiſm prompt them to endeavour to effect, another kind of reform—*a reform in the tithe ſyſtem, and* (as far as legiſlative regulations can be applied) *the management of landed eſtates!* Some contend, that legiſlative interference would be inconſiſtent with the rights of proprietors, and dangerous. To interference, however, of a ſimilar nature, we owe many great and important advantages. Undoubtedly, private property ſhould be touched with a delicate hand; but when the lands of a country are not occupied and cultivated in ſuch a manner

manner as to ſecure her power and independence, and the happineſs of her people, I contend that legiſlative interference is highly neceſſary: And that ſuch additional legal regulations (relative to our tithes and lands) might be deviſed, as would be highly advantageous to the kingdom, and profitable to the proprietors, appears as capable of demonſtration, as any propoſition in Euclid. Feeling, however, that I have already encroached too much on your time, I ſhall not at preſent enlarge on theſe matters. Warmly recommending the ſubject of this letter to our leading ſenators and landholders, I beg leave to ſay that, in truſting *ſolely* to the ſilent, and I may add, *ſlow* operations of ſelf-intereſt, I apprehend much danger. I therefore remain, &c.

CELERIUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Injudicious Methods reſorted to in Setting Land.

SIR,

HAVING long been of opinion, that the inſtitution of the Board of Agriculture was calculated to do infinite ſervice in promoting the public good, I was lately confirmed in it, on reading Dr Thomſon's Agricultural Survey of Fife. From the numerous facts brought under the review of the public, in ch. 5. § 6. tit. *Leaſes*, and the many abſurdities there noticed and commented upon, both with regard to letting farms, and the conditions inſerted in leaſes, I concluded that no proprietor, or manager of any eſtate, could, without the danger of being marked as a perſon entirely unqualified through ignorance, venture, after reading this chapter on the management of eſtates, to perſiſt in practiſing the ſame abſurdities there ſo juſtly expoſed to merited contempt.

But how much was I diſappointed, upon reading in the Edinburgh Advertiſer, of the 1ſt current, '*Farms in Fife to let, and enter to at Martinmas* 1804!' After deſcribing the farms on two conſiderable eſtates, offerers for thoſe on the one eſtate are, with a ſhare of good ſenſe, deſired to give in their propoſals on or before the 25th January current; but offerers for the farms on the other are informed, that they may continue to give in propoſals *till June next*, or within a few months of the term of entry. The proprietor cannot be a reſiding one, or he would have known his own intereſt better than to be guilty of ſuch an abſurdity. The managers cannot be ſuch as the Doctor deſcribes; otherwiſe it muſt have occurred

to

to them, that if theſe farms are not let till June, the ſitting tenant, even if continued, can ſow no graſs ſeeds, no turnip, no fallow, provide no lime or other manure, without committing an act of folly againſt his own intereſt. Thus, without the ſmalleſt advantage to the proprietor, but, contrariwiſe, with the greateſt injuſtice to his ground, the farmer, if continued, is to be injured more than 20s. for each acre he poſſeſſes, by the want of hay and turnip the firſt winter; of green clover the next ſummer, and by a total diſarrangement of the œconomy of the farm. If a new tenant is preferred, in what ſituation is he to ſit down? He cannot, in June, apply to the outgoing tenant to allow graſs ſeeds to be ſown and harrowed in with his crop; he can have no ground for turnip or fallow, the ſeaſon for preparing both being over. The conſequence to the proprietor will be, that either the tackſman muſt have a very moderate ſhare of underſtanding; or his offer in rent muſt be conſiderably leſs than he would have made it, if not ſubjected to the diſadvantages above noticed.

Your Magazine being generally read, I hope theſe ſtrictures may meet the eye of both proprietors and managers, and be improved in ſuch a way, that, in time to come, not one ſolitary inſtance of the like nature will be met with in a newſpaper. In fact, the advertiſements I allude to, contain ſuch a diſplay of ignorance of the true intereſt of proprietor and tenant; of agricultural knowledge; of public good, and of the management of an eſtate, as to merit the ſevereſt reprehenſion. Indeed, the manager, whoever he is, may be aſhamed to ſhow his face, after committing himſelf ſo egregiouſly. Not even the order of the proprietor can ſcreen him; for if he had the ſkill to know, and honeſty to point out the true intereſt of the concerned, no ſuch order could poſſibly have been given.

Ultima Thule, 23. *Jan.* 1804. A SPECTATOR.

NOTE BY THE CONDUCTOR.

THE mode of letting land, reprehended by our northern correſpondent, is ſo inconſiſtent with public and individual intereſt, that we cannot paſs the ſubject, without offering a few remarks on its miſchievous tendency. Indeed, where Whitſunday is the term of entry, land ought to be ſet fifteen months preceding that time, otherwiſe the tenant neceſſarily enters with leſs or more diſadvantage. If at Martinmas, the ſet ought at leaſt to be nine months before that term, ſo as graſs ſeeds may be got ſown in due ſeaſon. The great object is, to place the new tenant

nant in ſuch a ſituation as will enable him to pay as much rent as poſſible at the outſet. If this is neglected, he muſt either employ his capital ſtock in an improper way, or get into arrears, which he may find it difficult afterwards to liquidate.

A ſenſe of the inconvenience under which incoming tenants labour, has induced many landlords to attempt compelling outgoing tenants to leave graſs for their ſucceſſors; but the attempt, though ſucceſsful in ſome inſtances, has generally failed. Indeed, ſuch a meaſure is unjuſt, unleſs the old tenant had the like advantage at his entry. It would be better, were landlords to inſert a clauſe in every leaſe, binding the outgoing tenant to leave a certain extent of land in graſs properly ſown down, and alſo for fallow; the ſame to be paid for according to the valuation of neutral people mutually appointed.

Were ſuch a clauſe inſerted in all leaſes, a tenant would, in general caſes, enter with much greater eaſe and advantage to himſelf, than he can do at preſent. Still this preſumes that the ſet muſt be made ſeveral months before the date of entry; otherwiſe, how are ſervants and farm ſtock to be timeouſly provided? We join our correſpondent in thinking, that the intereſt of the landlord muſt be injured by delaying the buſineſs to the laſt moment. Injurious to the tenant it certainly is; and every circumſtance, prejudicial to him, eventually affects the landlord in one way or other. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Application of Dung.

SIR,

IN your laſt Number, p. 38. *et ſeq.* I offered a few deſultory reflections on the accumulation and preparation of farm-yard manure. It is now my intention to diſcharge the promiſe then made, by ſtating ſome thoughts on the beſt way of applying that article, being convinced that much improvement has of late been introduced in this important branch of rural practice; particularly in thoſe diſtricts generally conſidered to be under the moſt approved management. According to the plan formerly ſuggeſted, I ſhall take up the ſubject in two points of view, viz. as connected with light and clay ſoils; or more particularly, as relative to ſoils on which turnips conſtitute the firſt or leading crop, and thoſe where naked ſummer-fallow is the preparatory ſtep of the ſubſequent rotation.

Some previous remarks, connected with the right management of dung in all ſoils, and in every ſituation, are however neceſſary, ſo as repetition may be afterwards avoided: theſe are, that no greater quantity ought to be given at one time, than is ſufficient to fructify the ground; in other words, to render it capable of producing good crops, before the time arrives when a freſh doſe will be adminiſtered. In a rotation of *four*, one dunging is ſuppoſed to be neceſſary, it being underſtood that two culmiferous crops are only taken; but in rotations of *fives* and *eights*, the common ones followed by good farmers, on heavy or wet ſoils, two dungings are neceſſary; otherwiſe, the crops raiſed will prove proportionally defective, before the expiration of the courſes. It is evident that, under the common reſources of arable land, ſuch repetitions are impracticable, unleſs the utmoſt frugality is ſtudied in the diſtribution; but where this is neglected, a regular ſyſtem can ſeldom be adhered to. The error of former times conſiſted in giving too great a quantity at once, thereby depriving the ground of its regular nouriſhment; in other words, the ſoil rioted in the midſt of plenty for two or three years, and faſted and ſtarved for ſeveral ſucceeding ones. Hence, the generality of fields were either too rich, or too poor; either ſaturated with the juice of manure, or completely barren from the want of it; whereas, had ſupplies been furniſhed in an œconomical manner; had the quantity of manure in hand been diſtributed with judgement, a more uniform produce would have been the conſequence. The new ſyſtem of applying manure, corrects all theſe errors, in ſo far as local circumſtances will permit. Accordingly, a ſmall quantity is now beſtowed at once, and the doſe frequently repeated. The ground is regularly fed; but never ſurfeited with a profuſion of victuals. Hence, the crops conſtituting a regular rotation are more uniformly good, and a greater proportion of the valuable grains are raiſed, than could be accompliſhed in former times.

Though land can rarely be rendered too rich for carrying green crops, yet it is well known, that the ſame obſervation will not hold good, when applied to wheat, barley, and oats; but that ſuch may be, and often have been, materially injured, in conſequence of heavy manuring. Look at the ſite of a dunghill, and you will rarely find that a crop of good grain is produced upon it. You have a great flush of ſtraw, often of bad quality, and a ſmall quantity of inferior grain, little better than if the labours of nature had ended in an abortion. The like conſequences, though certainly in a leſs degree, generally took place with the firſt crops of former times, after ſummer-fallow and dung, eſpecially if the weather proved wet when the grain

was

was filling; and to avoid ſuch evils, many farmers, at this day, in the neighbourhood of great towns, decline laying manure upon their fallows, knowing that the vegetable food contained in theſe lands, if reinforced with an additional ſupply, would, in nine caſes out of ten, prove deſtructive to the enſuing wheat crop. It is alſo often obſerved, that where a heavy coat of dung has been given to a well wrought fallow, ſuch a degree of fermentation takes place in the ſucceeding ſpring, as altogether to free the roots of young wheat from their natural hold; thereby occaſioning them to ſtarve for want of nouriſhment, though ſurrounded with abundance of food.

But, paſſing over theſe evils, and even under the ſuppoſition that they never exiſted, ſtill the practice of adminiſtering manure in an economical manner may be ſupported by arguments of a different nature. If a quantity is beſtowed ſufficient to impregnate the ground, all above that quantity deſerves to be conſidered as profuſely thrown away; at leaſt the benefit thereof is in a great meaſure ſacrificed. Manure, upon many ſoils, is ſoon deprived of its enriching powers; upon all, its ſtrength is diſſipated and carried off by heat, wind, and rain; therefore, the oftener it is repeated, the greater will be the benefit derived from the application. Miſtake me not here. I am not arguing under the ſuppoſition that the farmer has it in his power to dung land at his pleaſure, as may be the caſe in the vicinity of great towns. No; my arguments merely relate to the ſituation of the ordinary farmer, who muſt act upon his own ſupplies; who poſſeſſes but a limited portion of manure, and whoſe care ſhould be directed to manage that portion in ſuch a way as to derive the greateſt poſſible advantage therefrom. To make my meaning clear—If one hundred carts of dung, each containing one ton, or thereby, are laid upon four acres of land, and the ſame quantity, and of ſimilar quality, is laid upon eight acres, I maintain that a very conſiderable advantage will be derived in the latter way, more than in the former; independent of the ſtreſs that might be laid upon the circumſtance of keeping a great part of every farm in a penurious, conſequently in an unproductive ſtate, when a profuſe ſyſtem is practiſed.

Another general remark occurs; that is, concerning the utility of ſpreading dung with accuracy, in other words, dividing it into the minuteſt particles, thereby giving every part of the ground an equal ſupply of food. This practice was miſerably neglected in former times, and is ſtill leſs attended to than its importance deſerves. In fact, I know of few operations which call more loudly for the attention of the farmer, and none in which a more general improvement has taken place. The ſu-

perficial and ſlovenly way in which dung was formerly ſpread, muſt be freſh in the memories of moſt people. In many inſtances, I have ſeen the big heap only broken down, as it were, into a number of ſmall ones; and as for tearing or ſhaking the dung aſunder, ſuch an idea then rarely entered into the head of any man; though it is plain that, without making a complete ſeparation, the article could neither be ſufficiently covered in, nor its virtues be conveyed to the ſoil. Perhaps the increaſed attention now beſtowed, in all the cultivated diſtricts, to the ſpreading of dung, originated from the meaſure of limiting the quantity applied. When forty, fifty, nay even ſixty double loads were applied to an acre, it was not very difficult to cover its ſurface, even with an imperfect ſeparation, though it certainly was impracticable to bury the big lumps with a furrow of ordinary ſize; but when the quantity was brought down to eighteen and twenty loads, and, more ſo, when twelve and fourteen loads were thought ſufficient, a different conduct became abſolutely neceſſary. Another improvement alſo followed, viz. ſpreading dung when raw or green, that is, immediately after the carts, in which way, at leaſt during ſummer, it will be ſeparated at one half of the expence, and to much better purpoſe, than when it is ſuffered to lye in the heap for a day or two. In ſhort, it is a ſure mark of a ſlovenly farmer, to ſee dung remain unſpread in the field, unleſs it be in the winter months, when it may happen that hands cannot be got for carrying on ſuch operations with the uſual regularity. At that time the injury ſuſtained, by loſing a few days, is not great, though, as a general rule, it will be found that the expence is always ſmalleſt when the carts are regularly followed up.

Having made theſe preliminary remarks, as connected with the application of dung, in all ſoils and ſituations, I proceed to ſay a few words on the ſubjects mentioned in the introductory paragraph.

When turnip huſbandry forms the chief branch of fallow proceſs, dung, as obſerved in my former letter, is naturally of a ſuperior quality, and requires little artificial management for bringing it to a proper ſtate of preparation. In the greateſt part of Scotland, and even in England, where the drill and horſe-hoeing ſyſtem is practiſed, the common, and undoubtedly the moſt approved way of applying dung to turnips, is by laying it in the intervals of the drills or ſmall ridges, which are previouſly made up by a *bout*, or two furrows of the plough. Theſe drills or ridges are formed at a diſtance of from twenty-four to thirty inches from the centre of each; and by driving the horſes and cart along the middle one of the ſpace intended to be manured, the dung is drawn out either by the carter, or by

by another man ſpecially appointed for that purpoſe, in ſuch proportions, as the poverty of the ſoil, or the diſpoſition of the occupier, may judge to be neceſſary. If the breadth of three drills are only taken at a time, the dung ſtands a better chance of being regularly adminiſtered; for it often happens, that when a greater number are included in one ſpace, the two outſide drills receive a leſs quantity than the intervening ones. Thoſe, therefore, who limit themſelves to three drills, generally divide the ſpreaders, as it requires ſix hands, women or boys, to follow up what is uſually called *a head of carts*, the number of carts to the head being regulated by the diſtance of the dunghill, or the kind of road over which it is to be carried. Others, again, thinking that by manuring only three drills at one time, the travel of the horſes is greatly increaſed, and time waſted when it is particularly precious, take five drills into one ſpace, and, by putting the ſtrongeſt hands to the two outſide drills, making theſe go in front, thereby getting the firſt of each heap, and placing an able confidential ſervant to aſſiſt and ſuperintend the whole, conſider that the work is equally well performed, while a greater quantity is put through hands in a given time. Both plans have their votaries, though I am inclined to think that the difference betwixt them is immaterial. The main objects are, to provide a proper bed for the dung, which is eaſily done by holding a deep furrow when the drills are firſt made up; and to ſhake it well aſunder, or divide it into the ſmalleſt parts, ſo as an inſtant and complete operation thereof may take place. To accompliſh this in the moſt perfect manner, I have even ſeen hand work reſorted to; but the common cuſtom is to do it with ſmall light *grapes* or forks; and it is wonderful to ſee how adroitly the ſpreading is performed by ſmall boys and girls, after they are a little time accuſtomed to the taſk.

The quantity of dung uſually given for turnips is from twelve to fifteen double cart loads, of one and a half cubic yards each, to a Scots acre. In ſome caſes, only ten loads are given; but the land ought to be in high condition where ſuch a ſmall quantity is beſtowed. In fact, no ſoil can be made too rich for turnips or other green crops, peas excepted; but the object to be attended to, in this, and every other caſe, is an allotment of the manure collected upon the premiſes, in ſuch a way as that the greateſt poſſible return over the whole farm, not from a particular field, may be gained by the occupier. The old clerical maxim of 'preaching according to the ſtipend,' may in this matter be acted upon with advantage by every farmer.

As to the mode of applying dung to potatoes, a few particulars may be ſtated. The culture of this eſculent is in ſeveral

reſpects ſimilar to that of turnips, but in others it differs materially. Potatoes are planted earlier in the ſeaſon than turnips; the ground rarely receives ſo much work; the ſoils upon which they are cultivated are more variable; and the dung conſidered to be moſt ſuitable for promoting their growth, does not require ſuch high preparation. Many farmers, notwithſtanding theſe circumſtances, follow out the ſame proceſs as deſcribed under the head of turnips. After the ground receives three, or at moſt, four ploughings, the drills are made up, dung depoſited in the intervals, the ſeed planted above the dung, and the drills reverſed; after which, ſay at the diſtance of two or three weeks, a ſlight harrowing is given. Several objections occur to this mode; ſuch as, that the ſeed is generally kept too near the ſurface, which in dry ſeaſons proves unfavourable to the crop; the dung, unleſs it be very ſhort, is apt to be drawn up by the harrows, and the ſeed removed from its original birth. Theſe things induce other farmers (and probably they are right) to adopt a different ſyſtem: They avoid making up drills, but dung the ground in what may be called the broad-caſt way; and, entering the plough, plant the ſeed in every third furrow, into which only the dung is raked, and ſo on till the whole is finiſhed. Before the young plants appear, or even after they are above the ſurface, a hearty harrowing is given, which is conſidered as equal to a hand-hoeing; and from the dung being completely covered, ſcarce any of it is dragged up, while the ſeed, being undermoſt, none of it is diſturbed by the operation. Both modes have their advantages and diſadvantages. The firſt is carried on with leſs trouble, and more regularity; the laſt, perhaps, with moſt advantage to the crop, eſpecially on heavy ſoils—the ſeed furrow looſening the ground more effectually than can be given by the forming of drills. Several farmers do not dung their potato fields; but, reſerving the manure till the crop is removed, find the remainder of the rotation greatly benefited. Potatoes ſcourge ſeverely, and, in general caſes, require a larger doſe of dung than turnips; but as the extent of land under this culture is not great in common farming, few people grudge this extra quantity, becauſe, except in a few favoured ſituations, a good crop cannot otherwiſe be reaſonably expected.

I come now to the *ſecond* branch of my ſubject, the manuring of clay ſoils, or thoſe where turnips are not taken as a firſt crop. Such, it is preſumed, include at leaſt three fourths of Great Britain, though recent circumſtances may have leſſened their extent conſiderably.

Upon all ſoils incumbent on a wet or cloſe bottom, whether characteriſed as clay, loam, or moor, it may be laid down as a primary

primary principle, that dung cannot be ſo profitably applied, as while under the proceſs of ſummer fallow. Theoriſts, and half-bred agriculturiſts, may reaſon as they pleaſe againſt a continuation of this ancient practice; they may aſſert, with the utmoſt confidence, that immenſe benefit would be gained by laying it aſide, and reſorting to the drill ſyſtem; but their arguments will have little effect upon people practically acquainted with the management of argillaceous ſoils, who do not take one ſeaſon as a rule, but are guided by the dictates of common ſenſe, acquired, during ſucceſſive years, in the ſchool of experience. Whatever diſpute may have happened on this ſubject, I am ſatisfied that the oppoſite ſide of the queſtion is rarely eſpouſed by actual farmers, I mean, ſuch as have farmed wet lands; and that even thoſe, whoſe practice has in ſome degree ſanctioned a contrary opinion, were influenced to make theſe temporary deviations by motives of expedience, not by general principles. It is ſometimes neceſſary for ſuch to raiſe a few turnips, in order that live ſtock may be enabled to meet a market, or be preſerved at a critical period; others have partially reſorted to this culture, as the means of rotting dung: but, under whatever impreſſions they acted, few or none ever judged that ſuch deviations could be defended upon abſtract principles, though certainly they might be ſupported by expediency and exiſting circumſtances. Inclined to believe that ſuch are the ruling ſentiments of Britiſh agriculturiſts, I ſhall enter upon the important queſtion, How, and in what manner can dung be moſt profitably applied to clay lands, or thoſe, of whatever variety they may be compoſed, as are incumbent upon a cloſe bottom or ſubſoil?

I have already noticed, that when the ground is under the proceſs of ſummer fallow, the beſt and moſt appropriate time for applying manure to clay ſoils will be got. When under this proceſs, the ſoil, comparatively ſpeaking, is reduced into minute particles, which affords an opportunity of conveying the virtues of manure through the veins or pores of all its parts. The ſoil, at that time, is alſo freed from its aboriginal inhabitants—quickens and other root-weeds who claim a preferable right of ſupport; hence the artificial plants, afterwards cultivated, poſſeſs, without a rival, ſuch ſupplies as have been granted, without any deduction whatever. In ſhort, without laying any ſtreſs upon elementary effects during the proceſs, it does not admit of a doubt, that the like quantity of manure beſtowed upon the ground when ſummer-fallowed, will produce a greater return to the occupier, than if it had been applied at any other ſtage of the rotation.

Under theſe ideas, it appears that dung ſhould not be laid up-

on fallows before they are completely cleaned; though, no doubt, in wet ſummers this operation is not eaſily accompliſhed. To make ſure work, the fallows, if poſſible, ſhould be early ſtirred, and no opportunity ſlipt of putting them forward with the utmoſt expedition; for it rarely happens, at leaſt in Scotland, that much good can be done towards the deſtruction of root-weeds after the month of July. Before that time, a judicious farmer will have his fallow dreſſed up, and in a ſuitable ſtate for receiving dung. It ſhould be well harrowed, if the weather is favourable, previous to the dung being laid on; and if rolled, or made ſmooth, the ſpreaders will be enabled to perform their taſk with much more preciſion.

At the proper ſeaſon, every other operation ought to be laid aſide, ſo as dung may be expeditiouſly drove out. To do it in wet weather is attended with pernicious effects; the horſes are oppreſſed, a longer time is required, the land is poached, and in ſome meaſure deprived of all benefit from the previous fallow. Theſe circumſtances will be reflected upon by the attentive farmer; they will ſtimulate him not to loſe a moment when the weather is favourable, and prevent him from forcing on the work, when injury rather than benefit may be expected. After all, ſeaſons are ſometimes ſo perverſe, witneſs 1799, as to render every rule nugatory. Theſe muſt, however, be taken as they come; avoiding at ſuch times to break the land down, acclivating the ridges ſufficiently, and keeping the water-furrows completely clear. By attending to theſe matters, opportunity may be laid hold of, by the active farmer, ſeveral days ſooner than by his ſlovenly neighbour; or, at leaſt, the work will be got executed in a much more perfect way than if they had been neglected.

The quantity of dung uſually applied to fallows in ordinary condition is from fourteen to twenty double loads *per* Scotiſh acre, though I have often reaped good crops where only twelve loads had been given. So much, however, depends upon the condition of the land, upon the quality of dung, and the way in which carts are loaded, that no preciſe meaning can be communicated by ſuch expreſſions. I believe each load may contain one cubic yard and three fourths, and weigh a ton, or thereby. It ought alſo to be noticed, that leſs dung will ſerve ſome lands than others, eſpecially if they have lately been ploughed from graſs; but, at all events, I am ſatisfied, that ſixteen ſuch loads as I have mentioned will anſwer for any ſort of ſoil, unleſs it has been previouſly quite wrought out. Even if it was in this forlorn ſtate, I hold it to be better management to dung upon the ſtubble of the firſt crop, than to give an over-doſe when under ſummer fallow.

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As ſaid before, I am clear that all dung laid upon ſummer-fallow ought to be ſpread the moment it is pulled out of the cart. It can at no other time be done ſo well, or ſo cheap; though, on many farms, ſmall ones eſpecially, where a full ſupply of hands are wanting, this beneficial practice is much neglected. Three ſpreaders, boys or girls, with an attentive overſman to follow up, and ſupply any omiſſions, are ſufficient for one head of carts; the number included in a head being regulated by the diſtance of the field from the dunghill. Some farmers employ a perſon, on whom they can depend, to draw the dung from the cart, who has judgement to proportion it according to circumſtances, and is reſponſible for any failure in the execution; but the carter is the perſon uſually employed, though, unleſs a boy is given him to drive, a very regular diſtribution can hardly be expected. To inſure accuracy in laying down, I have ſeen fields thrown into a dambroad figure; and, a heap being drawn out into each ſquare, you could have aſcertained, to a nearneſs, the quantity required for the whole. The great object, after a regular and economical diſtribution, is to ſhake and part the whole completely; as, by minute attention to this particular, a much greater effect is neceſſarily produced.

After the fallows are dunged, the remainder in hand is reſerved for what may be called the intermediate dunging, generally beſtowed either upon clover ſtubbles, upon wheat ſtubbles previous to taking beans, or upon bean ſtubbles before the ſeed furrow is given for wheat. It is obvious, that the farmer muſt often be regulated, in this intermediate dunging, by the weather at the time, though it rarely happens but that dung may be got out upon clover ſtubbles at one time of the winter or other. When applied to beans, a beneficial practice, the dung, as ſaid above, is by ſome people laid upon the wheat ſtubble, and ploughed down before winter; hence it is in full action in the ſpring, when the ſeed-furrow is given. Others make up drills at ſeed time, depoſiting the dung in the intervals, as for turnips or potatoes; but it ſeldom occurs, that weather can then be got, at leaſt on real bean ſoils, for executing this management.

It remains only to be ſtated, that many arable farms, under the ſtricteſt economy, are unable to furniſh ſupplies for an intermediate dunging, at leaſt to its full extent; but perſons ſo circumſtanced, have it always in their power to overcome this defect, and preſerve a regular rotation, by keeping certain fields longer in graſs, which of courſe will yield weightier crops when broke up, and ſtand leſs in need of manure during the after rotation. As, for inſtance, in a rotation of ſix, and it is here that the greateſt ſhortcoming is felt, graſs ſeeds to a certain extent,

ſay

ſay a half, may be thrown in with the crop of wheat taken after fallow, which is the ſecond year of the rotation; this part may be paſtured for three years, and broke up in the ſixth for oats, which concludes the courſe. Again, in a rotation of eight, graſs ſeeds, in like manner, may be ſown with a part of the fallow wheat, which part can be paſtured for three years, then broke up for oats, ſucceeded by beans and wheat. By ſuch arrangements, made according to circumſtances, it is an eaſy matter to preſerve a regular rotation, and to proportion the corn crops to the quantity of manure collected upon the premiſes.

Thus I have given you my ſentiments on the moſt proper and economical methods of applying farm-yard manure in different ſituations, and under different circumſtances; the ſum and ſubſtance of which is, that feeding the land frequently with dung, not giving too much at once, and ſpreading it with exactneſs, are objects deſerving the attention of every farmer who wiſhes to make the moſt of the premiſes under his occupation.

I am yours &c.

ARATOR.

FOR THE FARMER'S MAGAZINE.

On the Management of Sheep at Cauterets, in the department of the Baſſes Pyrenees *in France, with an account of the Scab or Sheep Poſe: Compoſed by M. Tenon from information procured from the Shepherds of the diſtrict, and communicated by him in* 1791 *to the Paris Society of Agriculture.* *

General Circumſtances.

THE climate of Cautarets is conſiderably colder than that of Paris, owing to the elevation of the mountains which compoſe that diſtrict; theſe are covered with ſnow through the whole winter ſeaſon, and part of the ſpring, and there are even ſome ſpots where the ſnow never melts. In the month of July 1762, when the thermometer at Paris indicated a temperature of 92°.7 by Fahrenheit's ſcale, it roſe only to 77° at Cauterets; and, while the graſs

* We are indebted to the kindneſs of Sir John Sinclair Bart. for the preſent appearance of this memoir, which was originally tranſlated from the French, at his requeſt, by one of our correſpondents, who has now obligingly reviſed it for our uſe.

graſs in the neighbourhood of Paris was burnt up and withered, it was quite green and full of ſap at Cauterets.

The ſheep which are paſtured in that diſtrict are bred there; the wedders weigh from 32½ to 53½ pounds each, and the ewes from 27 to 43 pounds. The ewes become pregnant in July, and bring forth one lamb at Chriſtmas; ſcarcely one ewe in fifty has twins, which is lucky, for, when twins happen, they are ſmall, weakly, and difficult to rear.

The flocks are kept in ſheep-cots, or ſtables, built very cloſely for the purpoſe, from the end of November till the May following; and all the reſt of the year they are in the free air of the mountains, day and night. As the management is different at theſe two periods, I ſhall endeavour to relate them ſeparately.

Winter Management.

At the time of ſhutting up the ſheep in the cots, they are very ſubject to a diſeaſe, which ſhall be deſcribed hereafter, occaſioned by the ſudden change from the open air to an air which is too hot and too much confined.

When put into the cots, the ewes which are great with lamb, are kept apart from ſuch as are not pregnant, and from the wedders. The latter have three pounds of hay allowed them each day, divided into three portions; in the morning, at midday, and in the evening. The pregnant ewes, and ſuch as have dropt their lambs, have a ſimilar allowance, with the addition of one or two pounds of aftermath, or ſecond crop hay, which is ſuppoſed to contribute more towards the production of milk than the other. At this time of the year the rams are kept along with the pregnant ewes. The ſhepherds are particularly careful that both the hay and aftermath, which are ſet apart as winter proviſion for the ſheep, ſhould be produced on high grounds which have not been watered, and that it ſhould be cut down when nearly in full flower. It is certainly owing to the full feeding which the ſheep get on the mountains, and becauſe they waſte very little of their juices during the conſtant confinement, that ſo ſmall a quantity of food, as is mentioned above, ſhould ſuffice for their winter maintenance. The ſhepherds ſay that the ſheep thrive better during winter, in the cots, on this dry food, than on their ſummer paſtures, particularly when they eſcape the diſeaſe to which they are incident when firſt ſhut up.

The fodder is diſtributed in cribs, which are placed cloſe to the ground all round the walls of the cots; or, if theſe be very large, one or two ranges of cribs are placed down the middle; the cribs are placed thus low, that, being under the heads of the ſheep, the

the hay and ſeeds may not fall among the wool of their necks, which would fret the ſheep by cauſing them to ſcratch.

It is obſerved that hay feeds the ſheep faſter than ſucculent graſs, and cauſes them to drink more. In the cold weather they are led twice each day to a running ſtream, where they drink, but very little at a time; if they happen to get at water which is leſs cold, they are apt to drink too much. At all times the ſhepherds carefully avoid haraſſing them with long or haſty journeys, or teazing them with dogs; and, when in the cots, they take care that they be not over crowded; they give them freſh litter frequently; and ſalt daily to the pregnant ewes, and to ſuch as are giving ſuck.

The ſhepherds always milk the ewes after the lambs have ſucked: a hundred ewes give about twenty-four Engliſh pints of milk each day, which is made into cheeſe; this quantity of milk, however, diminiſhes gradually as the ewes come nearer to the time of rutting, which is in July; and, when the milk grows ſcarce, it is mixed with the milk of goats and cows; but they allege that the cheeſe made of this mixture is not ſo good as that which is made from the unmixed ewe milk.

Summer Management.

The ſummer cares of the ſhepherd are different from thoſe above deſcribed. Whenever the ſnow is melted, and the graſs begins to vegetate, the flock is driven to the hills; there the wedders, ewes and lambs feed together on a fine ſhort graſs, which is in ſuch abundance as not to require travelling over much to procure it. Every evening the flock is gathered into a fold, near which ſtands a cottage where the ſhepherd dwells. When the paſture of one diſtrict is exhauſted, the flock is conducted to another, where a ſimilar fold and cottage are ready for the reception of the flock and its guide. * No fodder is diſtributed to the flock in the nights of ſummer, while in the fold, the only care being to watch againſt the depredations of the wolf and the bear; for which purpoſe a large dog conſtantly prowls round the encloſure. This animal is taken great care of, on account of his uſefulneſs, and is plentifully fed with bread and milk.

It is cuſtomary to give the flock ſalt every day while it remains on the ſummer paſture; but the quantity given is regulated by certain circumſtances: If the graſs is hard and dry; if the heat of the weather is very great, or if the ſheep ſeem to have loſt their appetite for food, as much ſalt as can be taken up with both

* This cuſtom reſembles the *ſheelings* in the Scotiſh Highlands.

both the hands held open together†, with twice as much bran, is allowed to each hundred ſheep every day; this is given in three portions, in the morning, at mid-day, and in the evening, ſpread on a large ſtone; or, ſometimes, each animal receives its portion out of the ſhepherd's hand. In the month of June, when the graſs is ſucculent and tender, only about a third part of the above quantity is allowed. When at the largeſt allowance, it takes about thirty-eight pounds of ſalt every month for a hundred ſheep.

Miſcellaneous Obſervations.

The mountains near Cauterets produce a much larger quantity of graſs than can be conſumed, during ſummer, by the flocks of that country; and the inhabitants are prevented from increaſing the number of their ſheep, becauſe of the ſcarcity of winter proviſions, which they have not hitherto ſufficient induſtry to increaſe, as far as is neceſſary, and even practicable. Owing to this circumſtance, part of the paſtures are annually let out to Spaniſh ſhepherds, who bring vaſt flocks of ſheep to graze on theſe hills during the ſummer, and drive them off about the end of October, towards the plains of Spain. From the want of fodder, theſe mountaineers are likewiſe obliged annually to ſell off a part of their ſtock, about the end of autumn, keeping only ſuch a number as they think ſufficient for their ſtore of hay and aftermath. At this time they ſell a great number of young ſheep and wedders of five and ſix years old. I am credibly informed that the Spaniards, of the neighbourhood of Sartagoſſa and Barcelona, purchaſe annually from twenty-five to thirty thouſand from this mountainous diſtrict, and the plain of Tarbes. I am likewiſe informed that the ſheep which are intended for this ſale are ſhorn of their fleeces the preceding December, inſtead of waiting till the uſual ſhearing time in July: by this practice the buyer acquires a fleece of ten months growth along with the carcaſe; and thus the Spaniards profit both by the paſtures and fleeces of France. In the year 1762 each beaſt, weighing about fifty-four pounds on an average, ſold for ſix livres, or ſix livres ſix ſols *.

The fleeces are ſhorn in ſummer, about the fifth of July, taking care to chuſe good weather, and beginning early in the morning. About an inch of wool is left to protect the animal againſt rain, ſnow, hail, and cold. All other circumſtances being

† What is called in Scotland a *goupin*.

* About five and ſixpence Sterling.

ing equal, the ram produces moſt wool, the wedder next, and the ewe laſt. It is ſaid that the ſheep produce leſs wool after a wet ſpring, owing to their having ſuffered from the effects of moiſture. I weighed ſeveral fleeces, and found that they differed from each other according to age; thoſe taken from animals of two and a half years old weighed about three pounds and a quarter, while thoſe of four years of age gave fleeces of between four and five pounds weight; theſe weights are to be underſtood as taken while the natural greaſineſs remained in the wool. The wool of the younger animals was finer, more ſilky, more pliable, and contained leſs impurities than that of the older ſheep; both were equally white, and ſimilarly ſmeared at the under end, and both were rediſh towards the points of the wool. The neck wool of the young ſheep was about ſix and a half inches long, and that of the thighs ſeven and a half; the neck wool of the older ſheep was ſeven and a half inches, and that of their thighs only ſix and a half, without taking into conſideration the inch of wool left on the ſkins.

Four or five days after ſhearing, it is cuſtomary to waſh the fleeces in what is called *gave* water, which is a mixture of ſnow water, cold ſpring water, and the water of ſome warm mineral ſprings. In this operation, each fleece loſes ſomewhat leſs than half its original weight. I had the curioſity to waſh two ounces of white wool in the ſpring called Ralliere, which is of the temperature of 99.5 by Fahrenheit's ſcale, and it loſt three quarters of an ounce by the proceſs. It was whitened by the waſhing, but conſiderably leſs ſo than what had been waſhed in the ordinary *gave* water; and it had acquired a good deal of harſhneſs. I had formerly remarked, that the hair and the nails of ſuch perſons as bathed for a conſiderable time in the Ralliere water became hardened, and acquired a yellowiſh tinge, from which circumſtance I was not ſurpriſed by the effects of the ſame water on the wool which was waſhed in it.

After the fleeces have been waſhed, they are dried in the ſhade, on cords hung up in lofts; the black fleeces, and thoſe of ſuch ſheep as have laboured under diſeaſe, as the ſcab, &c. are ſeparated from the reſt; then the fleeces of the older animals, of four and five years old, are ſeparated from thoſe of two and three; from both of theſe the wool of the neck, back, and flanks, as far as the middle of the ſides, are parted as the beſt; and of this the fineſt is taken from the neck and back of young and healthy ſheep, in their ſecond or third year. In every flock, they diſtinguiſh five or ſix kinds of wool; and the difference of ſex and conſtitution, contribute to augment theſe diſtinctions. Theſe circumſtances have even conſiderable influence

fluence on the qualities of the cloth which is manufactured from the wool; and of this I had an opportunity of judging, by examining the homeſpun manufacture of an induſtrious houſewife at Cauterets, who ſpins her wool, gets it worked up by the village weaver, and thus clothes about twenty-five perſons who compoſe her houſehold. Fourteen patterns of her manufacture are ſent along with this memoir for the inſpection of the Society.

*Of the Sheep-Pox.**

This diſtemper, which at Cauterets is called the ſmall-pox, is contagious, and indiſcriminately attacks wedders, ewes, lambs, and goats; more eſpecially during winter, when, ſhut up in confined cots, the animals are kept very hot. It is a very ſingular circumſtance, that this diſtemper ſhould only appear, at Cauterets, after intervals of twelve, fifteen, or twenty years; while in Guienne, and the higher Languedoc, it rages every year. Beſides that, in the former mountainous tract, the weather is colder than in the plains of the latter diſtricts, the ſheep of the Pyrenees are kept more apart from each other than in the low countries, and the different flocks are greatly leſs liable to meet together, or to paſs through the ſame roads, by which they are not nearly ſo much expoſed to the danger of infection.

When ſeized with this diſtemper, the ſheep become dull and weak, and they loathe their food; the head, eyes, ears, and gums, are ſwelled; and hard white tumours appear in the groins, and under the joint of the ſhoulder. Three or four days after the appearance of theſe tumours, pimples break out in different parts of the body. At firſt, theſe are ſituated on the naked ſkin between the thighs, and on the places where the wool is ſhort and ſcanty; afterwards, they break out about the head, and ſucceſſively over the whole body, even on the eye-lids, ears, and throat. In this ſtage of the diſeaſe, the animal ſwallows with pain, being obliged to hold back the head, and to ſtretch out the neck for the purpoſe; and it breathes with great difficulty. As the diſeaſe goes on, the pimples enlarge, and become inflamed, particularly at their baſes; they ſuppurate and burſt; the matter, which runs out, mixes with the wool, and mats along with it into hard lumps, but afterwards drys and falls to powder; the wool falls off in locks; and even the ſcarf ſkin peels off, in large pieces, which are full of holes. When the diſtemper

* In the original, this diſeaſe is named *petite verole*, literally ſmall-pox; and the author gives *picotte*, *clavelle*, and *claveau*, as ſynonymous terms.

diſtemper begins to abate, the ſheep rub themſelves on the poſts of the racks, or any other hard ſubſtance which comes in their way; and by this means, the wool, along with the looſe ſkin, and dried pus, are rubbed off. If proper precautions were not employed, this would infallibly ſpread the contagion, by infecting any other ſheep that might be brought into the ſame cots: But, on purpoſe to deſtroy the infection, new cribs are either ſubſtituted for the old ones, which are pulled down and burnt, or elſe the infected cribs are waſhed with cream of lime *, and the cots are thoroughly fumigated with burning juniper and other aromatic plants.

There are ſeveral varieties of this diſorder. In ſome of theſe, the eruption of puſtules is by no means complete, as above deſcribed: ſometimes the pimples grow black, and dry up without coming to ſuppuration; at other times, the diſeaſe is of a complicated nature. But as the diſorder only appears at diſtant periods, among the ſheep at Cauterets, we are not to expect very full information, concerning its various degrees, from the ſhepherds of that diſtrict; neither have they any decided experience of the effects of ſulphur, of ſetons, or of bliſters, in the cure of this diſtemper. Bliſters are ſaid to have ſcarcely any effect upon the ſkins of ſheep.

It is certain that the fleſh of ſuch ſheep as have died of this diſorder is very unwholeſome, has a very bad taſte, and is even dangerous to eat; and they add, that when dogs happen to feed on it, they catch the diſeaſe, and ſpread it by infection. Three cats belonging to the late Mr Deliſle, a member of this Society, by eating this food, had their heads affected with an eruption of puſtules, by which they were firſt blinded, and afterwards loſt their lives. Hence the neceſſity of the precaution, which is taken at Cauterets, to bury deeply the carcaſes of ſheep which die of this diſeaſe.

I had an opportunity, at a butcher's in Paris, to examine ſome ſheep which had died of this diſorder. The ſkins were covered with ſuppurated puſtules, which penetrated as far as the cellular membrane, and the fat in their neighbourhood was affected, for a conſiderable diſtance all round, being browner and firmer than the ordinary fat; and this alteration penetrated even to the fleſh. The inhabitants of Cauterets affirm, that theſe puſtules are found on the liver and other internal parts of the body.

I made every poſſible inquiry to learn if this diſeaſe was ever communicated from the ſheep to mankind, but could learn no inſtance

* Quicklime and water, mixed into a proper conſiſtence for whitewaſhing.

inſtance of ſuch infection: it is believed, however, in Languedoc, that it is communicated from ſheep to rabbits. I could not learn whether the ſheep were ever affected a ſecond time with the ſame diſorder; but we cannot expect information at Cauterets on this part of the ſubject, ſince the diſeaſe only appears there for a ſingle ſeaſon, after intervals of twelve, fifteen, or twenty years, while the ſheep live but eight or at moſt ten years; ſo that any of them that have once been diſeaſed cannot be alive when the next period of contagion comes round.

Whenever the diſorder appears in the flock, the infected animals are ſeparated from the reſt, and ſhut up in warm cots, having plenty of wheat or barley ſtraw given them for litter; they are fed with hay and aftermath which have been made on a dry field, with a little ſalt, and are allowed lukewarm water for drink.

In the flat country at Tarbes, which is ten leagues diſtant from Cauterets, and conſiderably warmer than in the Pyrenees, and where this diſtemper is much more frequent, a different method of treatment is followed. At the beginning of the diſeaſe blood is drawn by cutting the ear; the cots are fumigated, for five or ſix ſucceſſive days, by burning aromatic and ſtrong ſmelling herbs, preferring the dried ſtems of garlic for this purpoſe; theſe are burnt on a large ſtone in the middle of the cot, while all the vent holes are carefully ſtopped, to prevent, as much as poſſible, the ſmoke from eſcaping. The ſhepherds of Tarbes have great confidence in the beneficial effects of fumigating with garlic ſtems, which occaſions a great diſcharge from the noſtrils, eſpecially in ſuch caſes of the diſeaſe as are complicated with catarrhal diſorders, and with the ſtaggers or vertigo.

At Bellegarde, near Auch, they give to each beaſt a double handful of white mulberry leaves, which they allege is a moſt effectual cure, and ſeryes excellently for preventing the attacks of the diſeaſe.

When, at Cauterets, the diſorder begins to abate, whatever be the ſeaſon of the year, the animals are clipt, on purpoſe to aſſiſt the drying of the puſtules, and to favour the growth of a new fleece. After this the ſheep fatten very quickly; and it is worth while to remark, that the fleece, which immediately ſucceeds this diſeaſe, is finer and more ſilky than any former or future fleece on the ſame beaſt.

Formerly this diſeaſe made great ravages among the ſheep at Carcaſſone, till a method was fallen on to inoculate the diſeaſe. I learnt this fact in 1762 from Dr French, an Iriſh phyſician who lived in Languedoc for ſeveral years, but it was not till 1763 that I received particular information on this curious ſubject from Mr Berria, mayor of Carcaſſone, to whom I had written for in-

formation, and who procured me a memoir on the diſeaſes of ſheep in that part of the country. From this memoir the following account of inoculating the ſheep-pox is extracted.

'The Seigneur of Maux, in the dioceſe of Narbonne, is the firſt, and almoſt the only perſon who has practiſed inoculating the ſmall-pox in his flocks; and having been ſucceſsful, during ten years experience of the practice, his widow has ever ſince continued to follow his example.

'In the month of September, when the heat of ſummer is paſt, and before there is any danger of very cold weather; while the paſtures are ſtill in good order, and the lambs, which are now ſix or ſeven months old, are ſtrong enough for withſtanding the force of the diſeaſe, this ſeaſon is choſen as the fitteſt for communicating the ſmall-pox to the ſheep. For this purpoſe the freſh ſkin of a ſheep, either ewe, wedder, or lamb, which has died of the diſeaſe, or, inſtead of that, one taken from a ſheep which has been killed while affected by it, is placed on the floor of the cot. Into this cot all the young ſheep of the year are driven, and they voluntarily rub and roll themſelves on the diſeaſed ſkin. Very ſoon afterwards the ſymptoms of the diſeaſe begin to appear; they have a dull and heavy appearance, hold down their heads, are ſomewhat feveriſh, and loathe their food. In this ſituation the ſhepherd is particularly careful to lead his flock to the beſt and moſt plentiful paſtures. On purpoſe to aid the eruption of the puſtules, bread dipt in wine is given to the ſheep; they are anxiouſly preſerved from being expoſed to great heat or great cold, and particularly from rain. By theſe precautions they ſpeedily recover, and it very rarely happens that even one dies out of a flock of three hundred.

'Although the diſorder has often ſpread over the diſtricts in the neighbourhood of the eſtate where this practice prevails, there has been no inſtance of a ſingle ſheep, after undergoing the above deſcribed operation, having been infected a ſecond time. It ought to have been noticed, that the inoculated flock is carefully prevented from mixing with any other ſheep, by keeping it in a ſeparate cot, and on a particular paſture, the other ſhepherds being forbidden to uſe either for the flocks under their charge. By theſe precautions the diſeaſe is prevented from ſpreading, and ſuch proprietors as do not wiſh to have their ſheep artificially infected, have themſelves to blame if they do not avoid the place where the diſeaſed ſheep are kept. Since this practice has been followed, it has been obſerved that the diſorder has not returned ſo frequently, but that it has not proved in the leaſt degree leſs deſtructive to the flocks which have not been inoculated.

'Mr Berria adds, that the lambs never loſe their wool under the influence of the inoculated diſorder, and that their fleeces are equally

equally good in every reſpect with thoſe of the uninfected, ſo that no difference can be perceived.' *R. r.*

N. B. Further extracts from this curious memoir will be given afterwards.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Comparative Utility of Horſes and Oxen for Draught.

SIR,

As it is evident, notwithſtanding the undeniable utility of good draught oxen, that they are now nearly *out of faſhion*, (and when that is the caſe, a *good* old faſhion is as obſolete as a *bad* one), it might have been preſumed, that the long continued diſpute, on the comparative merits of them and horſes, was dying away. However, being in ſome ſort called upon by your correſpondent M, Vol. IV. p. 293., who, in a ſtrain ſomewhat exulting, aſks, what I ſhall ſay to his ſtatement of work performed on his farm by two horſes only, I venture once more to aſſert the utility of my old favourite the ox.

If your correſpondent will have the goodneſs to look again at the paper he alludes to, I believe he will there find it ſtated, that my oxen conſtantly laboured with the heavy draught horſes, and actually performed as much work, and to as good purpoſe; and I have ſtill no doubt that the like quantity of work might be obtained from a pair of good oxen, as he ſtates to have been performed by his pair of horſes.

The point at iſſue appears to me to be this; whether it be poſſible to obtain as much labour from oxen, as from the heavy black cart horſes now ſo much the favourites of moſt farmers, even on *ſmall* farms, (for many of theſe do not exceed 100 acres), not as from horſes of a lighter and more active deſcription, ſuch as the light ſandy ſoils of Norfolk are worked with. If the queſtion is diſcuſſed on theſe grounds, I have little or no doubt the reſult will be in favour of oxen.

A diſcuſſion of the comparative propriety of large and ſmall farms, in this country, would lead us into a very wide field of controverſy; for I am by no means an advocate for the monopoly ſyſtem, that ſome ſeem ſo partial to, of large farms univerſally, provided the little farmers, eſpecially thoſe of leſs than 100 acres, would have the wiſdom and patience to uſe oxen, inſtead of their ruinous favourites the heavy horſes, for what little labour they can want, on ſuch ſmall parcels of ground: though it muſt be allowed that they are induced to plough a great deal more than they can find manure for, on account of the heavy burden and coſt of thoſe animals. Take the country as it is, and not, as many

great farmers are wont to ſay it ſhould be, viz. divided into a great majority of *ſmall* farms, with a moſt unreaſonable ſtock upon them, of half-worked fat heavy cart horſes, it is not difficult to prove that the country at large muſt loſe millions *per annum*, on a fair comparative ſtatement of the expence, &c. of both. For unleſs we could bring the horſe, at the end of his term, into the ſhambles, he muſt enter the account as an article of *wear and tear*, or carrion in lieu of good ox beef. Could we ſurmount our prejudice againſt the uſe of horſe-fleſh, as hinted by another of your correſpondents, the whole matter would certainly ſtand on different ground; and undoubtedly it is deemed good for eating by ſome nations; yet I confeſs there is a faintneſs, and particular diſagreeableneſs of flavour in this fleſh, that will probably render it for ever unſavoury to the palates of Engliſhmen.

Many perſons who have been at the Cape of Good Hope, ſpeak much of the oxen generally uſed there, not only for ploughing the ground, but for travelling, and that at ſome ſpeed; nay they uſually repreſent the *horſe*, as totally unable to cope with that burning climate, and ſandy ſoil. There is certainly ſomething in this circumſtance, in favour of a preſumption of the ſuperior uſefulneſs of the ox; he undoubtedly is a patient labourer, and one capable of being made equally docile and tractable with the horſe, when proper methods are reſorted to, and when proper animals of the ſort are choſen for the purpoſe, which is ſeldom the caſe, I muſt own; for he is *certainly out of faſhion*, and nothing ſhort of extreme neceſſity will bring him into it again.

In order to reduce the argument into ſmall compaſs, this appears to me to be a fair way of ſtating it. There is in England a great majority of farms under 100 acres, on which the horſes kept are not fully employed; they can pay for their keep by nothing but their labour; therefore there is a certain loſs occaſioned by idle and unprofitable horſe-fleſh. The ox can perform all the work neceſſary on theſe ſmall farms; he is extremely valuable for ſomething more than his labour, therefore there is no loſs occaſioned by idle ox-fleſh.

I have a farm of 250 acres, long ſince let to a ſubſtantial tenant, which I know has been worked by eight oxen. I have alſo a number of ſmall farms, compriſing together nearly the ſame quantity of land, let to ſeven or eight tenants, on which from 25 to 30 horſes are uſually kept. What is the balance againſt the public? Certainly, were all theſe worked by *oxen*, the public muſt be a gainer. But conſumption is the life and ſoul of trade;—ſo ſays the farmer. Here is conſumption with a vengeance; but not a conſumption that can poſſibly benefit mankind, on any enlarged ſcale of population.—No, no; conſumption though

though a vicious one, may be a very good thing for the farmer; but economical conſumption is moſt for the benefit of the community.

Let us view the ſubject in all its aſpects, and it cannot help ſtriking us very forcibly, that the *horſe* is an article of mere *wear and tear*, and of no uſe to mankind independently of his drudgery; that it is, and ever muſt be, a *deſideratum* in all populous countries, that the whole of their produce ſhould, as much as poſſible, conduce to the nouriſhment of the *human* ſpecies: witneſs China, the moſt populous and beſt cultivated country in the world, and without horſes, which, of courſe, where not eaten by man, muſt be conſidered as joint *tenants* with men, and not, like oxen, ſubſervient to men both in life and death. In fine, we ſhall come to the concluſion, that the ox poſſeſſes ſtrong preſumptive evidence of ſuperior utility in this very reſpect, until the population of any given ſpace arrive at that pitch, that even the *edible* ox with his plough, &c. muſt of abſolute neceſſity be ſuperſeded by *man* and his *ſpade*, which of courſe will bring it, like China, into the *garden* ſtate, or ſtate of higheſt cultivation, 'where every rood of land maintains its man.'

Comparative Statement of the Expence of Keeping, &c.

Horse.	L.	s.	d.
Prime coſt of horſe at 4 years old - - -	30	0	0
Keep, ſhoeing, attendance, &c. &c. for 10 years, at 30l. *per annum* - - - -	300	0	0
	L. 330	0	0
Deduct value of ſkin and carrion, &c. - - -	1	1	0
Total coſt of horſe	L. 328	19	0
—— coſt of ox -	80	0	0
Difference in favour of the ox	L. 248	19	0

Ox.	L.	s.	d.
Prime coſt of ox at 3 years old	20	0	0
Keep, &c. for 10 years, at 10l. *per annum* - -	100	0	0
	L. 120	0	0
Deduct value, fat, - -	40	0	0
Total coſt of ox	L. 80	0	0

Here appears a balance in favour of the ox, which the amateurs of the horſe will find it difficult to fritter down to their own favourite theory; for it is notorious, that one draught horſe will conſume more corn, beſides his hay, than a family of ten or twelve perſons: ſo that if the *datum* before ſtated, and not eaſily to be ſet aſide, be admitted, viz. that ſmall farms worked by *heavy* horſes, do not generally find *full* employment for them, the *community* under the preſent prevailing or faſhionable ſyſtem, of working with horſes, beſides being ſcantily ſupplied with *good* beef, muſt ſuſtain, by thoſe *heavy* horſes, an annual loſs of many millions.

I am happy to obſerve a noble Peer, lately at the head of the Board of Agriculture, ſtep forward with becoming ſpirit to aſſert the utility of the neglected ox, and ſupport his cauſe by a number of very cogent arguments, enforced by a rational and practical account of operations performed by this uſeful animal, under the immediate obſervation of his Lordſhip, ſufficient to place his *real uſe* in rural œconomy beyond all cavil or comment. That nobleman's hints in regard to 'poſitive aſſertions, &c. without proof,' made by perſons utterly unſkilled in the real knowledge and proper uſe of Draught Oxen, are well worthy of the attention of all parties concerned.

RUSTICUS EBOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Planting Oziers and Willows.

SIR,

IF you pleaſe to lay before the publick the following method of planting willows in the fens of Cambridgeſhire, you will probably render eſſential ſervice to many of your readers.

In the fens, many holts (as they are provincially called), or plantations of oziers, are raiſed, which beautify the country, keep the ſtock warm in the winter, and provide much uſeful wood for baſkets, cradles, and all kinds of wicker work, and alſo for cribs for cattle, to eat ſtraw or hay out of, and to make ſtows or hurdles to fence in ſtacks, part lands, &c. &c.; or they make hedges that will laſt four years well; and if allowed to grow five years, many of them would make good fork-ſhafts for hay or corn.

Theſe holts, or plantations of oziers, are commonly made in the middle of the land, in the north and eaſt corners, and ſometimes at any end, ſide, or place, that appears moſt eaſy, or in any reſpect the moſt deſirable.

The ſituation and ſize of theſe holts vary exceedingly; Sometimes they are made, in the middle of lands, from 10 to 60 yards ſquare; and in others, in the ſides or ends, of from 1 yard wide to 10, and from 10 to 100 yards long.

The mode of planting is very ſimple; firſt to dig the land from 6 to 12 inches deep, and then to prick down cuttings of 4 years growth and 18 inches long, at about three feet diſtance from each other. The ſoil ſhould be moor or clay, or any that is low and wet: if drowned half the year it will be but little the worſe.

Theſe holts or ozier plantations muſt be fenced round either with dikes, which is moſt common, or with hedges, as is moſt convenient.

convenient. The proper ſeaſon for making them (though they ſeldom fail of growing at any time) is from the fall of the leaf till very late in the ſpring, and the ſets are very cheap. Such plantations are cut annually for baſkets, ſkeps, ſcuttles, cradles, and all kinds of wicker work; but when the oziers are kept for ſets, or to make hedging wood, or for ſtows or hurdles, they are cut only once in four years.

Our mode of planting red or white willows will likely be acceptable; therefore, a few words ſhall be given on that ſubject.

Now, when wood is growing ſcarce and dear in Britain, and likely to become more and more ſo, gentlemen of landed property ſhould cauſe many red and white willows to be planted on their eſtates; and it anſwers well for tenants that have long leaſes to make ſuch plantations, as they turn out a profitable concern. Indeed, in all leaſes, my opinion is, that the tenants ſhould be taken bound to raiſe a given number of young willow-trees. Even tenants at rack-rent ſhould not be excepted, becauſe the meaſure would produce important advantages to the country.

Either the red or white willows will grow well, as may be ſeen in all the fen pariſhes. They will proſper on all kinds of fen, moor or moſs, or wet or low lands; on any kind of clay, loam, or mixed ſoils; but ſhould never be planted on any high, dry, or burning lands.

Theſe willows are always planted of cuttings or boughs, commonly of four years growth; the ſets have frequently the tops cut off, and are left about 8 feet long; but, before planting, they ſhould have the thick end put in water three or four weeks, which makes them grow the better. When the planting ſeaſon arrives, holes are dug about two feet deep, and at nine or ten feet diſtance; the ſets are then put in, and the holes filled up with earth. After the ſets are planted, if the weather be very dry, they ſhould be watered ſometimes during the firſt year of their growth. Such plantations ſhould be either fenced in, or ſtock kept from them for a few years, till they are covered with a coarſe thick bark that ſtock will not eat. Thoſe which were topped before planting ſhould be cut every four years, when they will produce many ſets to plant freſh fields, or valuable wood for other purpoſes.

But it is a moſt excellent plan not to cut the tops off the ſets when they are planted, but to let them grow for timber, and only cut the ſide boughs off every four years for ſets, &c. Theſe willows will grow, in moſt ſituations, more rapidly, I believe, than any other wood, and to a prodigious large ſize, even as large as oaks or elms. The wood is very tough and durable, when kept dry or painted, and is valuable for buildings and other purpoſes.

It is a proverb in the fens, that 'a willow will buy a horſe before an oak will buy a ſaddle.'

I am yours, &c.

A CAMBRIDGE AGRICULTURIST.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Upon the REDUNDANCIES *of* NATURE.

By the BARON *MUNCHAUSEN.*

SIR,

IT hath been whiſpered to me, that ſome murmurs of incredulity have been raiſed againſt the Talicotian experiment, detailed in my laſt. I am indeed, Sir, well aware of the invidious eyes with which bold Munchauſenian reaſoners are ſurveyed, by the timid followers of that great precautioniſt Bacon. We indeed ſnatch from them the palm of ſcience: We rapidly erect ſyſtems upon the narroweſt grounds of experiment, through extenſion of analogy; leaving to them the mere piddling labour of the verification, by experiment, of our adventurous concluſions. They, on the other hand, endeavour to detract from our merit, by various cavillings. '*Senſations*,' ſay they, 'are of that ſolid, ſubſtantial nature, that they can never be confounded with the *ideas* ſupplied from memory, or ſuggeſted from imagination: But the latter, being of like airy tenuity, from whichever of thoſe ſources derived, are eaſily miſtaken for each other: And we are ſtrongly inclined to ſuſpect that, in the ardour of ſyſtematyzing, you Munchauſenians are apt to preſs, equally, into the ſervice of theory, the fictions of fancy as the recollections of memory; and to bring forward, in ſupport of your ſyſtems, mere imagined analogical inferences, as experiments recollected from the teſtimony of ſenſe.'

Aware of thoſe cavils, I would not have been ſurpriſed, had any of your numerous correſpondents attempted to clap this ſame interpretation upon my Talicotian proceſs for the increaſe of wool. As, however, a full half of your ſolar year has elapſed, without any objection having been offered; and that no one has, during that period, thought proper to accept my challenge of *come and ſee*; I think I am fully entitled to conclude, that the analogical reaſoning, upon which the probability of my experiment was ſupported, has appeared, of itſelf, ſo completely ſatisfactory, that not a doubt remains of the reality of my ſucceſs. Being thus encouraged, I call upon your readers to attend, with tucked up hair, and the ſame eaſy faith, whilſt I pour into their ear, my

Reaſonings

Reaſonings and Experiments upon the Redundancies to be found in Nature.

It hath, moſt fooliſhly, been adopted as a maxim, or, at leaſt, the maxim hath been moſt fooliſhly interpteted, '*that Nature hath done nothing in vain.*' For, from thence, it hath been inferred, that there cannot exiſt ſuch a thing as redundancy or ſuperfluity in her works; a concluſion which would, at once, ſet aſide the whole of my ſubſequent reaſoning and experiments. Now I do, on the contrary, moſt peremptorily pronounce, that ſuch interpretation, inſtead of doing honour to, would moſt eſſentially diſparage her ſyſtem of economy. It were, indeed, to judge very meanly of Nature's liberality, or her reſources, were we to ſuppoſe, that, in the diſtribution of her bounties, ſhe had niggardly confined herſelf to the mere conferring of *the abſolutely needful*, as if unwilling or unable to ſpare any farther furniſhing: I have, therefore, been ever ſturdily determined to conclude, *a priori*, that her favours were beſtowd in a much more plentiful profuſion: and extenſive obſervation of the ſtate of the fact, hath ever more and more confirmed the juſtneſs of my original conception.

To inſtance, at preſent, in our bodily ſenſes, do we, in the diſtribution of the ſenſitive power, perceive any marks of niggardly ſtinting? The precious ſenſe of *ſight*, not only hath its organs ſecured from external injury, by a fortification of projecing bone, behind which they lye ſnugly entrenched, but is equally communicated to two ſeparate organs, that, in caſe of failure of the one, the other may ſtep forward as its inſurer. *Hearing*, and *ſmelling*, are they not equally furniſhed with double *apparatus* of organs? And the ſtill more important ſenſe of *touch* (ſo eſſential to our more intimate acquaintance with external objects, as alſo to our more ſubſtantial enjoyment of them) is not only equally diffuſed, in its more intenſe degree, over no leſs than ten fingers, by way of multiplied inſurance, but alſo over the whole ſurface of the body. Like to vegetable juices, however, the intenſity of whoſe peculiar qualities are increaſed by the condenſation of inſpiſſation, but weakned by expanſion into occupation of larger ſpace through dilution---So, do we univerſally find, that the ſenſitive power is weakened, by diffuſion over a multiplicity of organs of the ſame, or of different ſenſes; but rendered more vivid and acute when concentrated into a few. Hence, the blind are found to poſſeſs a more nicely diſcriminating ſenſe of touching, than thoſe who both ſee and feel; whence follows the indubitable propriety of putting out our eyes, when we wiſh to excel in profeſſions requiring the poſſeſſion of a touch peculiarly delicate. The power of vision

is

is confeſſedly rendered more acute, when concentrated into one organ; and he who wiſhes to take ſteady aim, therefore, always ſhuts the one eye; though, to render this acuteneſs permanent, I would rather propoſe the total extirpation of the one eye, to ſave the continued trouble of ſhuting it:—perhaps I am the firſt to have ſuggeſted this improvement. When, however, I reflect upon the lateneſs of the diſcovery, with the ſubſequent rapid progreſs of the uſeful inventions of the variolous, and much more, of the vaccine inoculations, I do not at all deſpair of ſeeing the uſeful faſhion of *monoculiſm* become univerſally prevalent. The powers of ſong, in birds, is known to be improved by blinding them; as they *then* take the more delight in exciting in themſelves the pleaſurable conſciouſneſs of exiſtence, by their own melody, when deprived of the capacity of ſuch excitation, from the impreſſion of external viſible objects. Senſibility, both literal and metaphorical, is indeed, thus equally acuated by concentration; and, for this cauſe, the wiſe Homer, to fortify the powers of his imagination, gazed to the effect of total blindneſs, upon the dazzling blaze of the armour of Achilles; when, according to the unſuſpected teſtimony of antiquity, an apparition, for this purpoſe, was conceded to his prayers. The wiſe practice of the amputation of different joints of the fingers, among ſavage nations, which it has ſo much puzzled ignorant travellers to account for, is, I know, certainly to be referred to the ſame rational origin. But I find I am anticipating myſelf.

Having thus illuſtrated my general doctrine of *the actually exiſting redundancy of Nature, in the rate of her furniſhings;* in the inſtance of the diffuſe expanſion of the ſenſitive powers: Having alſo, (in a manner, perhaps, not over methodical), afforded a glimpſe of my theory, and correſponding practice thereupon founded, in the hints thrown out, as to the improvement of ſenſitive excitability—which, I truſt, are not thrown away upon you and your ſapient readers; I ſhall proceed to illuſtrate, and practically to apply the ſame doctrine, in regard to the powers of vegetable and of animal *concoction;* powers ſo ſubſervient, and indeed indiſpenſable to animal and vegetable life, growth and vigour, that I ſhall henceforth beg leave to deſign them, when neceſſary, by the ſhort appellative of *the vital powers.*

In regard, then, to theſe vital powers, there are two diſtinct ſpecies of redundancy, in the one or the other of which Nature will generally be found to be peccant.

1ſt Species of Redundancy.

This conſiſts *in the bulk of body, to be ſuſtained, being overproportioned to the extent of efficacy of the given vital powers.* In this redundancy

redundancy of bulk of body, it is evident that the ſtrength of theſe powers muſt be overſtrained; and that, after all, a due ſufficiency of nouriſhment cannot be elaborated. Of courſe, the *cacoethes (bad habit)* of *inanition* is ſuperinduced; terminating in *atrophous conſumption.*

The cure is ſo obvious, that I need hardly ſuggeſt it, viz. *The artificial reduction of the bulk of the body, to that proportionate circumſcription, through the whole of which the vital powers may be able to extend their efficacy with ſufficient energy and vigour.*

This method of the cure of inanition is, I acknowledge, no new diſcovery; I therefore claim no merit, excepting in the judicious application of it to the economical purpoſes afterwards to be ſpecified.

Every perſon is acquainted with the immemorial practice of pruning trees, to increaſe the vigorous growth of the remaining parts; and of lopping off the heads of ſuch as are tranſplanted, that their ill ſettled roots may have no taſk of nutrition aſſigned them overproportioned to their powers of performance. The *rationale* of theſe practices has, I find, been ſucceſsfully acted upon by one of your correſpondents, in plucking off potato bloſſoms; and, with an effect proportioned to the different periods of operation, *in ſuch wonderful exactneſs*, as has ſeldom fallen to the lot of any other experiments than ſuch as have been conducted under the immediate inſpection of myſelf, the Baron Munchauſen.

This ſame method of cure, or of prevention, which we now uſe in the vegetable, hath, from the earlieſt antiquity, been applied to the caſe of animal inanition; and, for the benefit of your readers leſs verſed in the writings of ancient hiſtorians, and of modern travellers, I ſhall produce, from both, a few inſtances of the more accuſtomed modes of its application. In the very authentic hiſtories of the female republic of virgin Amazons, we are aſſured, that the right breaſt was univerſally cut off; that the powers of concoction, relieved of this draught upon them for ſupply, might ſuffice to invigorate, with manly ſtrength, the arm that was deſtined to draw the bowſtring. Hence, alſo, the wiſe Hottentots continue to this day the practice of amputating the one teſticle, to the ſtrengthening of the leading leg in running; and (as I have ſtrong analogical reaſon to conclude) to the invigorating alſo of the powers of procreation. I might here take notice of the univerſal practice of American, and of more lately diſcovered ſavages, of plucking out the hairs of the beard, and of drawing out certain of the teeth, that the plaſtic powers of nature may not be needleſsly overſtretched in the production or nutriment of uſeleſs ſuperfluity. It may tend more to general

edification

edification (as, happily, it may lead to the adoption of imitation) to advert to that moſt ſage and uſeful practice, almoſt univerſally prevalent amongſt the unadulterated ſavage children of nature, in whom reaſon continues unperverted by the artificial refinements of civilized life—I mean the felicitous invention of ſqueezing the bones of the head (by continued compreſſion betwixt deal boards, from earlieſt infancy) into the ſhape of a ſquare, or of a ſugar-loaf: The brain being thus no longer ſuffered to weaken itſelf, by diffuſe expanſion through the whole content of a hollow ſphere—which every mathematician knows to be the figure of greateſt capacity; but, being condenſed and concentrated, from the circumſcription of its circumambient encloſure, into figures of leſs extenſive comprehenſion, the inherent intellect, like the ſteam of water, is rendered more elaſtic and vigorous, through the compreſſion; from whence reſults that great ſuperiority of intellectual and active energy for which ſavage nations have been ſo highly celebrated in the eloquent rhapſodies of ſuch a number of your modern philoſophers. To *them*, indeed, I would moſt ſeriouſly recommend the adoption of the practice, for the benefit of themſelves and families; as alſo, to all families through which weakneſs of intellect has been accuſtomed to deſcend by inheritance.

Numberleſs other inſtances might be adduced, both from the vegetable and animal kingdoms. I preſume, however, the above are ſufficient to convince both you and your readers of the juſtice of my firſt poſition, reſpecting *redundancy*, 'that Nature is frequently found peccant, in giving more field for exertion, than the afforded active force can occupy to full advantage;' and *that*, both in regard to the powers of ſenſibility and of vitality; producing, thus, the general bad habit of inanition, together with all the particular failings of obtuſe ſenſe, and of diſeaſes of debility. I conceive, too, that I have ſufficiently eſtabliſhed the *rationale* of my method of cure, both from analogy, and from the ſupport of wiſe eſtabliſhed practice, viz. *the concentration of powers by the circumſcription of their local diſtribution.* I ſhall not therefore detain you from the main purpoſe of my preſent communication, by an enumeration of the numberleſs cures which I have, upon this principle, performed in the human ſpecies—of atrophy and maraſmus; and of nervous affections of ladies, languiſhing but half alive in the inanition of *ennui*; by the amputation of ears and of noſes; or of legs or arms, in more obſtinate caſes:—But ſhall proceed to ſtate the economical ends whch I have, by this means, ſecured to Agriculture; and theſe relate, chiefly, to *the proceſs of fattening cattle.*

Having, then, had often occaſion to obſerve a redundancy of body in the animal propoſed to be fattened, diſproportioned to

its powers of animal concoction, or (indeed, as often) diſproportioned to the affordable quantity of food given it to concoct; I bethought me how this diſproportion might be moſt readily adjuſted: And the practice of circumſcribing the animal's dimenſions within an equalizing meaſure, immediately preſented itſelf; which I thereafter effected moſt ſucceſsfully, by the amputation of one or two of its limbs, as the caſe might require: But though this practice ſucceeded with me to a wiſh, as to the main point, I nevertheleſs found it attended with a ſmall diſadvantage, in its incommoding the animal ſomewhat in the management of its perſon. I long meditated upon the ſubject, therefore, to ſee if I could attain to a more commodious method of effecting my purpoſe. I believe I ſhould have given up the matter as hopeleſs, had it not been for the information I ſubſequently obtained in Abyſſinia (which, by the way, ſhows the advantages of travel), where I reſided ſome years along with a countryman of your own, who has publiſhed ſeveral things which, I believe, he might have gathered from my information, though he has not always had the candour, or diſtinctneſs of recollection, to quote my authority. I there procured me a couple of ſkilful anatomical butchers, who (according to their country's practice, which my fellow traveller has ſo amply detailed to the public) could ſerve you up raw ſteaks, all quivering with life, from the muſcular fleſh of a live cow, to the gueſts within doors, while ſhe ſerenaded them with her bellowings of agony from without; till, through the dexterous avoiding of the greater blood veſſels, her whole fleſh was cut from off her body, and ſhe preſented to the eye a moſt curious and complete living ſkeleton of mere bones, veins, and arteries; ſo that her aſtoniſhment at her own appearance ſuſpended the feelings of her torture. By their aſſiſtance, I had recourſe to the Abyſſinian mode of circumſcribing bulk, by ſtripping off part of the fleſh, inſtead of amputating the limbs of my cattle deſigned for fattening. In the operation, I carefully preſerve the ſkin and bone of the limb intended to be macerated,—carefully tying up the arteries belonging to the muſcular fleſh which I extirpate; the ſkin is then applied to the bone, to which it very ſoon adheres; and the limb, continuing ever after to be mere ſkin and bone, requires little or no nouriſhment from the concocting powers of the animal. Here, however, I muſt beg to warn the reader againſt miſtake, ſhould he be inclined to avail himſelf of this my precious invention. He will no doubt have read, in your traveller, an account of a fact, of which, indeed, I myſelf was an eye-witneſs, viz. ‘ Of a parcel of ſoldiers upon a march throwing down a cow they were driving before them, cutting a hearty breakfaſt of beef-ſteaks from the muſcular fleſh of her backſide, which

which they devoured raw before her very eyes; then ſowing up the ſkin, and driving her again before them, to furniſh like meals, in like manner, at their ſubſequent places of reſting.' Now, though I pledge my veracity to the truth of the fact; and can, indeed, never ſufficiently admire the advantages of Abyſſinia, in poſſeſſing, thus, automatous proviſion, ſuperſeding the neceſſity of proviſion-waggons to attend the march of armies; yet I muſt caution my readers, that the circumſtance, of cows being able to move without the aid of muſcles, I have found to be excluſively peculiar to the animals, or to the climate of Abyſſinia. You can nowhere elſe

'*Kill half a cow, and turn the reſt to graſs.*'

I aſſure your readers, that all my diminiſhed animals are, of neceſſity, houſe-fed in ſtalls, having ſlings (like horſes on ſhipboard) to ſupport their weight in ſleeping; their macerated legs becoming rigid, and ſerving only as ſtationary ſupports. Moreover, they muſt be all ſlaughtered at home, as they cannot carry themſelves to market—an inconvenience little felt in near vicinity to market towns, or where there is convenience of water carriage.

Upon the whole, the conveniences of my Abyſſinian practice, for the proportioning the ſize of the animal to its powers of concoction, or to the food that can be afforded it to concoct, in giving to private families, in country places, the deſireable opportunity of prolonging the ſeaſon of freſh meat, by eating half their beaſt, while the other is left alive, to ſerve upon another occaſion, the expenſive operation of ſalting being, meanwhile, almoſt totally ſuperſeded----theſe conveniences are, I apprehend, too great to be neglected, as they are too obvious to be overlooked. I have juſt to obſerve, that, when ſo much as an entire half of a beaſt is taken away at once, to ſuit family convenience, there is ſome danger of an enſuing *plethora* in the remaining half; a danger that may however be avoided, by ſuffering the animal to bleed freely in the operation. This leads me to conſider the ſecond and oppoſite ſpecies of redundancy; which I ſhall diſcuſs, after a manner equally luminous, in ſome future communication. MUNCHAUSEN.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Capons; and Information requeſted concerning the Cutting of Straw.

SIR,

IF it be allowed, as ſtrongly aſſerted, that a capon is preferable to a hen, or to a cock, of whatever age, and that the former

former is more eaſily and ſpeedily fattened than either of the other two, perhaps it may be deemed an object in Scotch rural economy to recover the art of ſafely performing the neceſſary operation. That this muſt have been generally known and practiſed formerly, is evident from this, that kain-capons were paid in many parts of Scotland; and if it be yet preſerved in this country, or can be obtained from any other quarter, you are requeſted to have the goodneſs to make it known, by inſerting it in your very uſeful Publication.

I have to requeſt your attention to another ſubject, ſhould you think it worthy of notice. I have more than once ſeen deſcriptions of machines for cutting ſtraw, with explanations of the principles upon which they were conſtructed; but I do not recollect to have met with a detailed account of the uſes to which the ſtraw, when cut, ought to be applied, nor of the advantages attending it. Will the expence of the machine, and the labour of the people who work it, be returned to the farmer who uſes it? In Bengal, where oxen are almoſt the only animals employed either for draught or for burden, the principal part of their food is cut ſtraw, to which is often added, a certain daily quantity of a ſpecies of pulſe. Indeed, the cattle which are there ſtall-fed are fattened principally on theſe two articles; and excellent beef they become. Yours, &c. S. J.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Obſervations on the Beſt and Moſt Economical Method of Boiling Potatoes.

SIR,

IN your Supplement, a receipt is given for boiling potatoes, which I have formerly ſeen; and it was then ſaid to be recommended by Count Rumford. Admitting it to have been recommended by that celebrated economiſt, I muſt affirm, that the receipt is calculated not only to boil, but, at the ſame time, to ſpoil the potatoes, cooked in the mode therein recommended, when they are in the ſmalleſt degree of an inferior quality; particularly by putting in cold water from time to time, to leſſen the heat of the water in the pot, and boiling them with their ſkins on.

The fact is, that to render potatoes meally, *they muſt be boiled in the moſt expeditious manner poſſible;* and for accompliſhing this, I give you the receipt followed by my own goodwife at home. Potatoes of laſt year's growth are generally of an indifferent quality;

quality; but any attentive houſewife who tries both methods, can then judge which deſerves the preference.

1ſt, Pick out the quantity to be uſed as nearly of an equal ſize as poſſible, let them be well waſhed, and the ſkins ſcraped off, as is done with carrots, taking out the eyes, and any earth that remains about them, with the point of a knife; when the potatoes are large, they may be cut into two, three, or four pieces; throw them one by one, as they are done, into clean water, and rinſe them well about, before they are put into the goblet.

Slovenly ſervants, if not prevented, will return the ſcraped potatoes into the veſſel amongſt the muddy water and ſcrapings; in which event, they will be diſcoloured with the colouring matter of the ſkins.

2dly, Put the ſcraped potatoes into a goblet that has a tight well-fitted cover, with as much clean water as will barely cover them; throw in a little ſalt; fit on the cover as cloſely as poſſible, for keeping in the ſteam, and increaſing the heat, *and place the goblet on the hoteſt part of a hot fire*, in order that it may boil as rapidly as poſſible. Whenever the potatoes are enough boiled, they muſt be taken off the fire, otherwiſe they will immediately begin to abſorb the water (to the detriment of their mealy quality); which being poured off, the goblet is again put upon the fire, with the cover off, to dry up the moiſture; they are then taken out with a ſpoon, and put upon a diſh for ſerving up to table.

Potatoes, *boiled in this manner*, will be found perfectly clean, more mealy than when dreſſed with the ſkins on; beſides, when they come to table in this laſt mentioned ſtate, it is certainly a very diſagreeable operation, taking off the ſkins, by ſoiling the fingers, dirtying the table-cloth, confuſing the plates, and taking up the time and attention of the eaters, when they ought to be better employed. The mode here recommended is alſo more economical; for if part of the potatoes ſhould fall down into meal, it is found perfectly clean, and fit for being made into a pudding; but when the ſkins are left on, the mealy part being attached to them is entirely loſt, or only fit to be given to ſwine or poultry. I am your old friend, *E*——.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Advantages of Potato Huſbandry.

SIR,

IN the Strictures on Farm-Management near London, page 453. laſt volume, the following obſervation, or rather advice,

advice, is given: 'When potatoes are cultivated in the field to any extent, they may occupy a part of what has been allotted for oats or beans in the foregoing ſcheme of rotation; but they ought never to be put in the place of a perfect fallow, as the potato culture cannot clean the ground in any effectual degree from root-weeds; they muſt always be conſidered as an exhauſting crop, and conſequently the ſoil after them ought to be well manured.'

Theſe obſervations ſhould have eſcaped my notice, were it not that the ſame unfavourable idea reſpecting the culture of a root that has afforded more relief to the poor, and yields a larger quantity of human ſuſtenance from an acre, than is to be got from any other crop whatever, ſeems to be entertained not only by almoſt all your correſpondents, but even by the Conductor himſelf, whoſe ideas and ſentiments reſpecting rural œconomy, in general, are fully as correct and juſt as are to be found in any publication on the ſubject, that I have peruſed. A reflection upon theſe things induces me to communicate ſome circumſtances that have come under my obſervation, in the courſe of a long and tolerably extenſive practice. For conſiderably more than half a century, I have every year been engaged in the cultivation of potatoes, to an extent, on my own account and that of others, ſeldom leſs than ten, and frequently above twenty acres anſually, beſides ſeeing the culture of above a hundred acres more in my immediate neighbourhood, after which, in common ſeaſons, wheat was ſown; and unleſs bad ſeed was uſed, or bad weather occurred, the crop rarely failed of yielding the weightieſt and moſt abundant return, that was produced from fields managed in a different way. Drilled beans, for theſe thirty years back, have been greatly cultivated as a preparation for wheat; yet, in ſo far as has come under my obſervation, and where the ground has been in the higheſt ſtate of preparation, take one year with another, the produce of wheat after beans has not, in general, been within a fourth or fifth leſs than what has been got after potatoes. Nor has there, in general, any conſpicuous degree of inferiority appeared in the ſubſequent crops on the ſame field after potato wheat, to thoſe after bean wheat, when equally diſtant from being manured.

In ſpring 1801, when putting in my beans, which, for more than thirty years paſt, have in general been all drilled, I found a part of a field, about ſixty yards in length, acroſs one end where the ground was a little ſtiffiſh, ſo much infeſted with couch graſs, that I determined to give it a complete fallow, as, from its appearance, it could not be thoroughly cleaned in drilled beans. Some weeks after, I thought of taking a crop of potatoes. It

was ploughed twice or thrice by the laſt week in May; furred up in drills; the dung then laid in, and the potatoes planted and covered from one ſide only with a ſmall furrow. Two weeks after, ploughed an ordinary furrow from the other ſide of the drill, laying it above the ſeed, ſhifting a little the ſhoulder of the furrow that covered them: in eight days after, harrowed all over: they were hoed, pared, and furred up in the uſual manner; and, in October, produced a very plentiful crop, and not an atom of couch to be ſeen. Where the beans (which were a very good crop), were taken off, a plough was run down the drill; and in a few days the field was harrowed, well dunged, ploughed alongſt with what had been potato, and ſown with wheat. The crop, where the beans grew, was tolerably good; that after the potatoes very abundant, fully three bolls the acre better than the other; and this laſt year the barley was equally good with that where the beans grew, though on inferior ſoil. How all this is reconcileable to the very impoveriſhing effects ſo generally aſcribed to a potato crop, is ſomewhat myſterious.

That a perfect fallow in general, in many ſituations, and for ſome ſoils in any ſituation, is preferable to cultivating potato crops, is incontrovertible; yet where the ſoil is light and dry, it muſt be in a dreadful ſtate indeed, if a potato crop, properly cultivated, does not clean the ground pretty effectually, and enſure, with more certainty, as weighty a crop of wheat as would be got by a perfect fallow. Even loamy ſoils, though ſomewhat heavy, are often in a ſtate with couch graſs, that it would be very unadviſeable to attempt its extirpation by a crop of drilled beans, when it might be done, with conſiderable ſucceſs, by taking a crop of potatoes; and there is no compariſon as to the chance for a crop of wheat.

Few ſeaſons permit much to be done for cleaning land of root-weeds before the middle of March, by which time drilled beans ſhould be in the ground. From that to the middle of May, when potatoes may be planted with ſucceſs, a great deal, in moſt ſeaſons, may be done for cleaning the land of couch and other roots, which, during that time, if in beans, would have been acquiring additional increaſe. Beſides, potatoes may be planted in ſuch a way, as that a great part of the ground can be turned over two weeks after, and kept ſtirring for eight or ten days longer, without any injury to the crop; and no ſooner do the plants appear, than the interſtices can be ploughed again, and cloſer to the rows, than can with ſafety be done to drilled beans. Very little earth thrown on them does great hurt, whereas the more that is put on potato plants, if not totally covered, ſo much more they thrive; and the hand-hoe, by the ſtems being at a greater diſtance, can be

be applied with more effect, and longer throughout the ſeaſon, than is poſſible to be done amongſt drilled beans.

It has been recommended as an antidote againſt the impoveriſhing tendency of potato crops, to pluck off the apples; but, from what has hitherto occurred to me, that precaution does not promiſe to have much effect. Sundry kinds of potato bear no apples; yet, when planted in the ſame field with thoſe which do, the crops after either have appeared to be much on an equal footing. Beſides, it has been uſual, from the firſt planting of potatoes in the fields, to begin lifting them before the apple was well formed; and this has been done to ſo great an extent in many fields, that a conſiderable part of the whole crop is often taken up before the remainder arrive at full maturity, though the difference in the after crop, where the potatoes had been early lifted, or where they had been late, provided the grounds were ploughed and ſown at the ſame time, has never been remarkable.

It is very obvious, that the potato culture can never be carried to the ſame extent, in general, as the culture of turnips; yet there are many ſituations where potatoes may be raiſed with as much profit as turnips, eſpecially in wheat diſtricts, even though they cannot be diſpoſed of or ſold. They may be conſumed by farm horſes, one feed a day being of great benefit, and acknowledged to be ſo by all who have practiſed it; by young horſes; or by milk cows and other cattle after March, when no other green feed can be got for months. For any of theſe purpoſes, one acre of the white yam potato, properly cultivated, will produce more ſubſiſtence than three or four acres will do in grain, and with a greater certainty of a good after-crop, eſpecially if for wheat, than if the ground had been turnip. I have never obſerved that crops of turnip were more fertilizing than crops of potato, nor that crops of wheat, in general, are ſo abundant after the former as the latter.

It has long been my opinion, that an acre or two of the yam potato, with a few green kail, either of which, on bleak ſoils, will afford more aliment than is to be got from any other crop, would be a great acquiſition in high, late diſtricts, for young cattle and milk cows, in the end of the ſeaſon after the turnip is over, when, except a little verdure by the ſide of a brook, not a green blade is, in many years, to be had for two months; and afterward, where theſe grew, if properly ſown with graſs ſeeds, an earlier graſs, and a cloſer ſward, will be produced than can be got when graſs ſeed is ſown without taking a ſummer wrought crop, or a complete fallow. It is clear and obvious, from what occurs daily, that one young beaſt, properly attended to, is

worth two fed ſparingly, much more ſo when nearly ſtarved; and the ſame holds as to milk cows.

It is not only the duty but the intereſt of every individual to promote the improvement of the country; at the ſame time, care ſhould be taken never to miſlead others. Nothing ſhould be recommended, but with great caution, that has not been proven from experience, as your correſpondent has judiciouſly done reſpecting the drilling of tares for green feed, which will be found no improvement. I have tried them oftener than once. Tares in drills ſoon fall over; or rather, as ſoon as above ground, creep along the ſurface, and prevent either hoe or plough being applied with any effect; and, what is ſtill worſe, the land does not produce half the bulk when they are in drills, that it does when they are in broadcaſt, if thick enough ſown, which ſhould never be neglected when intended much for green feed; a cloſe crop comes faſter forward, in the beginning of the ſeaſon, than a thinniſh one.

That ſome ſpring feed for ſheep, worth the expence, may be got, in the early parts of England, by ſowing tares or rye, where the ground is in good order, and intended for turnips or barley, may be poſſible; but nothing like an equivalent to the expence can be expected, even in the earlieſt parts of this country, by reſorting to ſuch expedients.

I have ſeldom or never ſeen a crop of either rye or tares, even where the ground was in a high ſtate of cultivation, and ſown early in Auguſt, worth twenty ſhillings an acre for feed, by the time that ground intended for a crop of barley muſt be ploughed over; and the ſeed commonly coſts more money than the crop is worth. If a degree of herbage, that would be an object, could be had from ſowing rape, the expence for ſeed would be but trifling.

The proſpect, laſt harveſt, of a ſcarcity of feed in ſpring, induced me to ſow about three acres with rape, which ſeems to be coming on; and the reſult ſhall be communicated to you for information to others. Your tithe correſpondent, uſing the ſame deſignation as mine uſed to be, I, for diſtinction's ſake, ſhall ſubſcribe myſelf, Yours, &c.

Mid-Lothian, January 1804. T. S. S.

NOTE BY THE CONDUCTOR.

When young troops are cheered and encouraged by thoſe who have grown grey in the ſervice, it is a pretty ſure ſign that they have reached a conſiderable degree of perfection in their tactics, otherwiſe

otherwiſe ſuch ſupport would not have been beſtowed. On theſe accounts, it always affords us much pleaſure to be favoured with communications from veterans in huſbandry; and we return our beſt thanks to the gentleman who has ſo obligingly tranſmitted the foregoing practical remarks.

If, under theſe circumſtances, one or two obſervations might be hazarded, we would ſay, that it is phyſically impoſſible to clean land equally well when employed in the culture of potatoes as when turnips are taken; becauſe a greater ſpace of time can be devoted to the previous preparation, in the laſt, than in the firſt caſe. That the profit ariſing from potatoes, and the produce of wheat in the ſucceeding year, may both be greater than where turnips are cultivated, we do not feel diſpoſed to deny; but that numerous obſtacles ſtand in the road of extenſive potato huſbandry, a few favoured ſituations excepted, we think to be incontrovertible. Theſe may be leſſened, but, generally ſpeaking, they never can be altogether overcome.

With regard to beans as a cleaning crop, we preſume that few practical agriculturiſts view them as equal even to potatoes, far leſs as meriting to be ranked with turnips. In fact, when beans are drilled, it is only intended to *keep* the land clean, not to *make* it ſo. We can ſafely ſay, that our beſt crops of wheat, both in reſpect of quantity and quality, are generally after beans drilled and horſe-hoed. The beſt bean land, however, is not the beſt potato land; therefore, what is here ſaid does not in the leaſt impugn the accuracy of our correſpondent's remark.

As to raiſing winter tares and rye as articles of ſpring food, we cordially agree with our judicious correſpondent, that, in this country (Scotland), ſuch cannot be attempted with the ſmalleſt proſpect of advantage. We have ſeen both tried, but the reſult was unfavourable. Our harveſts are too late, our winters too ſevere, our ſprings too cold and backward, for getting benefit from articles that certainly prove beneficial reſources to the farmers of our ſiſter kingdom. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Mode uſed in Eaſt-Lothian for Striking the Annual Fiars of Grain.

SIR,

It is unneceſſary to inquire concerning the origin of what is called *ſtriking the fiars of grain*; but it may be uſeful to inveſtigate the rules eſtabliſhed in different counties for carrying this

ancient practice into execution. The rents of many farms, and the ſtipends of many clergymen, being paid according to the prices thus aſcertained, it becomes an object of general importance that they ſhould be calculated upon correct and equitable principles.

At this time, it is only my intention to ſtate ſome particulars reſpecting the Eaſt-Lothian practice; becauſe, in that county, a more ſuperior attention has been paid to method and accuracy than in many others. If I am able to ſhow that the rules eſtabliſhed there, and uniformly adhered to for more than a century paſt, muſt eventually raiſe the fiars higher than warranted by a fair average of prices, I preſume it will at once be acknowledged, than an alteration of theſe rules is expedient and neceſſary. Nay more, that ſuch alteration would be doing no more than impartial juſtice to thoſe who are obliged to make payments according to the rate of the annual fiars.

In Eaſt-Lothian, the firſt ſtep of proceſs is to take a regular and extenſive proof concerning the quantity of grain bought and ſold, and the prices paid and received for it; all which is done with ſingular preciſion and exactneſs. The prices are next extended, which aſcertains the total value of the grain; the total value is then divided by the number of bolls deponed to, the quotient giving the *ſecond* fiars, which, in reality, are the fair average of prices during the period included in the proof. A new account is then made up of all the bolls ſold *above that average*; and, dividing the value thereof by the number of bolls in that claſs, the reſult gives the firſt or higheſt fiars. In like manner, by going to the prices which are *below the average*, the third fiars are aſcertained. I ought to have mentioned that two and one half *per cent.* have, ſince 1678, been regularly added to the prices deponed to, though no ſatisfactory reaſon can be given for this addition.

From the above particulars, it will at once appear, to any man of buſineſs, that what is generally called the Eaſt-Lothian fiars, can only be characteriſed as a correct average of the price of grain for the deareſt and ſcarceſt market days, with the addition of two and one half *per cent.* thereupon, and that thoſe, who make payments according to the rates ſo fixed, muſt unavoidably ſuſtain a heavy loſs. In fact, even laying the two and one half *per cent.* aſide, no farmer, who attends market regularly, can ſell his grain ſo high as the fiars. Were he even to command the beſt price of each day, ſtill he would be below the fiars, becauſe ſuch are formed excluſively from the higheſt markets, while the remainder is abſorbed in the ſecond and third rates. When the addition of two and one half *per cent.* is taken into account, it

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can hardly be diſputed that thoſe, who pay by the fiars, muſt, without all peradventure, be conſiderable ſufferers.

To make the matter more plain, I beg leave to mention ſome circumſtances which have lately come to my knowledge, the truth of which you may depend upon. On a farm of good wheat ſoil, and where a regular thraſhing of that grain had gone forward ſince laſt autumn, I find that, of a quantity approaching to 800 bolls, the average price thereof, which, of courſe, is the actual value received by the farmer, amounted preciſely to 25s. 10½d. *per* boll; whereas, according to the plan adopted by the Sheriff, already detailed, the firſt fiars, had they been formed from the wheat of this farm, would have amounted to 27s. 7½d., or 2d. *per* boll higher than what is fixed by interlocutor of Court. This reſult proves two things; *1ſt*, That the wheat in queſtion was at leaſt equal in quality to what was depoſed to in the proof, ſeeing that the fiars formed from it, are ſomething higher than the general reſult; *2nd*, That the Sheriff's figures may be received as correct, becauſe they approximate to this private ſtatement. But having made theſe admiſſions, I cannot avoid remarking, that the reſult likewiſe ſhows, in the moſt convincing way, that the higheſt fiars are ſtruck upon improper principles. If the farmer alluded to was liable in a wheat rent, payable according to the fiars, he would actually have been obliged to pay one ſhilling and ſeven pence more for each boll than he got for it, even notwithſtanding that the fiars formed from the wheat he had ſold, exceeded the rate aſcertained by the Sheriff.

Allow me now to urge a few words concerning the two and one half *per cent.* addition.

I never could rightly underſtand the cauſe of this additional charge, though I have heard ſeveral aſſigned in favour of it. By ſome, it has been ſaid, that it was on account of the increaſed value of ſummer thraſhed grain: but ſurely, when applied to rent or ſtipend, this reaſon bears no force; for grain, payable as rent or ſtipend, is deliverable betwixt Chriſtmas and Candlemas, conſequently cannot be benefited by ſummer drought. Others aliege, that it is on account of credit given upon grain; but this, if true, would lead us to believe that neither rent nor ſtipend could be demanded till Michaelmas, a circumſtance contradicted by the practice of the country. In ſhort, the addition is altogether unjuſtifiable, and ought to be departed from. Thoſe who ſell the grain, who take all the trouble, and run every riſk, ought rather to have a deduction from the average price, than be ſaddled with an addition. In mercantile concerns, conſignees receive commiſſion from their employers; but

here the tables are turned, and the conſignee, beſides running all riſks, is ſubjected to an additional charge, merely becauſe he takes the trouble of acting for the landlord or clergyman.

I am well aware that, as the Eaſt-Lothian mode of ſtriking the fiars received the ſanction of our ſupreme Scotiſh law court in 1773, no alteration can regularly be made without its interference. I preſume, the juſtice and expediency of an alteration being evident, that this might be eaſily obtained, either by an action of declarator, or, which would be better, by a petition from the learned gentleman who acts as Sheriff. I leave others, however, to determine upon the moſt proper means; but am certain that relief in one way or other ought to be beſtowed. In my humble opinion, if the old mode of ſtriking the fiars is retained, that is, if they continue to be made up in ſuch a way as to exclude grain ſold on cheap market days from having any weight in determining what, in reality, conſtitutes the fiars of the county; and if the extra charge of two and one half *per cent.* is ſuffered to remain; then I am warranted to affirm that every perſon, who pays either rent or ſtipend according to the rates ſo eſtabliſhed, is groſsly injured, being, in common ſeaſons obliged to pay from ſix to eight *per cent.* higher than a fair average of prices would juſtify, and a great deal more in ſome years, when grain is more variable in quality, and prices more fluctuating. I am yours, &c.

N. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Culture of Ruta Baga.

SIR,

IF your Magazine ſhall continue to advance in reputation as hitherto, or even if it ſhall retain its preſent extenſive circulation, it muſt become highly advantageous in bringing, to early and certain proof, every invention in mechanics connected with agriculture; every new method of cultivating the ground, which wiſdom, increaſed experience, caprice, or a ſpirit of adventure may ſuggeſt; and every adoption of plans into our rural economy, the hiſtory and culture of which have not before been familiar to us. Had your Magazine exiſted when turnip and potatoes were firſt cultivated in the Scotiſh fields, I am confident the progreſs and ſucceſs of theſe very valuable roots would have been much more rapid, by means of the light which the ſpeculations and facts recorded therein muſt have thrown

on

on the ſubject. And, to take a more recent inſtance, I am of opinion that, had your Magazine been coeval with the introduction of Swediſh turnip, we ſhould not, after ſo long a trial, have been at a loſs (as ſeems to be the caſe) to pronounce on the value of that plant. At preſent, it ſeems doubtful whether this ſpecies of turnip ſhall, like the common turnip, continue to hold a permanent place amongſt our field green crops; or whether, like the root of ſcarcity and others, after being talked of for ſome time as a novelty, it ſhall diſappear from our fields, and be conſigned to a narrow ſpace in our gardens. My own opinion of the plant is, however, very favourable, more ſo than thoſe of your correſpondents in your laſt Number (XVII.) whoſe ſtrictures have ſet me a thinking on the ſubject at preſent. The high utility of this root, for the purpoſes intended, ſeems to be generally, if not univerſally admitted; but the important queſtion at iſſue is, whether it can be cultivated ſucceſsfully, upon a large ſcale, as food for cattle. This queſtion, in the country where I live, is quite undecided; nay, for ſome years paſt, I have not been able to aſcertain, from obſervation, whether its culture be gaining or loſing ground, or whether it is not ſtationary. When I talk to ſome of my neighbours, who approve of its culture, they wonder with me that it is not gaining ground faſter; when I ſpeak to a different ſet of people, I find their opinions unfavourable, either from the reports of others, or from the trials they themſelves have made.

The late Mr Henderſon of Pilmour, one of our moſt intelligent farmers, told me he had given up the culture of baga, becauſe of its propenſity to run to ſeed; and the ſame objection I have heard from others. The fact I believe to be incontrovertible, that where it is ſown like the common turnip, it has a much greater tendency to run to ſeed than the other; and ſo great, as very often to injure the crop eſſentially. In conſequence of this quality, I very early was adviſed to cultivate the plant, not as we do other turnip, but in all reſpects as we do field cabbages; and although, even with this mode of culture, ſhooting is more prevalent than with the common turnip, yet I have never ſuffered materially in this way. At the ſame time I cannot ſubſcribe to another doctrine I have often heard held, reſpecting this root, viz. that its ſhooting does not affect the quality or ſubſtance of its root. Owing to its much greater hardneſs, the ſubſtance is not indeed ſo eaſily drawn off and exhauſted as from the common turnip; but ſtill there muſt be ſome diminution of the nouriſhment, even if it ſhould begin to ſhoot after the bulb has attained its full ſize: But if it ſhoots in the latter end of ſummer, or in autumn, before the bulb is filled, the crop becomes good for nothing. For a number of years I have

have ſown (commonly in my garden) a bed of baga ſeed, on the 20th or 21ſt of April: the plants are generally ready for tranſplanting by the middle of June; and about the time I am ſowing my common turnip, I dibble the young baga plants in rows, as I do my cabbages, only with ſmaller intervals; and have in general found my crop of baga as certain as that of my common turnip, and more certain than my cabbages. The trouble of tranſplanting is balanced by the ſaving of one hoeing, and the ground has had the advantage of being ſomewhat longer worked by the plough in fallow.

I have not found, as your intelligent correſpondent (a Member of the Eddleſton Farmers' Club) ſuggeſts, 'that the Swediſh turnip requires land richer by nature and art;' but I find they do beſt in deep land, and that they will grow well in land ſo moiſt as would deſtroy the common turnip. When I have conſidered the greater denſeneſs and weight of the Swediſh turnip, I have often thought that theſe made up for the larger ſize of my common turnip; but never having made an accurate trial of the weight of the two crops, I here ſpeak from conjecture only.

Your correſpondent adds, that they are 'only to be regarded as a corps de reſerve for ſpring.' My experience of them would diſpoſe me to cultivate a larger proportion than even that; but if by this be meant, ſuch a quantity as will be ſufficient to fill up the chaſm in our green meat, from the time of the general failure of the common turnip till our graſs is ready, the value of the ruta baga, by ſerving this important purpoſe, is moſt abundantly eſtabliſhed; and more eſpecially ſo in ſuch a climate as your correſpondent deſcribes, where, 'two years out of three, all the turnips upon the ground at Chriſtmas are entirely loſt by the froſt.' I have ſometimes complained that my turnip ſuffered more than thoſe nearer the coaſt, and in drier ſituations around; but I have never experienced any ſuch loſs as that mentioned, even when the turnip have remained in the ground till March.

I have ſet down the date when I judge it fitteſt to ſow and tranſplant baga; but conſiderable latitude muſt be given here, according to local ſituation, climate, and weather. The drought laſt ſeaſon made me defer the planting of my baga till the 29th June, and ſome till the 8th of July; and although we had no rain till the 7th July, both crops did well. I think, however, there is great riſk in putting ſuch plants into dry ground in dry weather; and that it is much better, in general, to wait till you get moiſture ſufficient to ſet them off readily.

When the ground is fully reduced by the ſpade and rake, all the ſeed may be expected to ſpring; and I have erred ſometimes, in not allowing ground enough to give the plants full vigour for tranſplanting in due time. When nets are not at hand, the ſeed bed ſhould be covered with dry leaves, or any light litter, to

prevent

prevent the ravages of ſmall birds when the ſeeds are ſpringing, as, at that time, ſuch are exceſſively fond of them. The ſame is a ſecurity againſt froſt, when the plant is very tender. In the latter end of May 1802, a ſeaſon ſo froſty as materially to injure the beech, larix, and other foreſt trees, I loſt my bed of baga after they were ſprung, by neglecting to give a ſlight cover to the ſurface, while one of my neighbours preſerved his plants unhurt, by having taken this precaution.

As your correſpondent *R r r* intimates his reſolution 'not to deſiſt from having two acres or ſo of fallow, annually, in ruta baga, till experience determines poſitively, whether to extend its culture, or to give it up altogether;' may I requeſt of him to ſet apart a half or a quarter of that ground for a tranſplanted crop?

A FIFE MAN.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Queries by a Buchan Crofter.

SIR,

IF you think the following queries deſerve a place in your uſeful Magazine, it will oblige me much that they are inſerted as ſpeedily as poſſible. I feel myſelf very incompetent for the ſubject, but truſt ſome of your intelligent correſpondents will favour me with the reſult of their inveſtigations.

1. What degree of heat is neceſſary to produce vegetation?

2. What is the mean heat of our ſummer, (*i. e.* from the 1ſt of March to the 1ſt of October), in Scotland, taking the mean of 3, 5, or 6 years?

3. What degree of heat and quantity of moiſture is neceſſary to bring the farmer's crop (corns) to perfection?

4. Have we that degree of heat in Scotland?

5. What is the difference of ſummer heat in the north and ſouth of Scotland?

6. What difference of ſummer heat in North and South Britain; not taking Edinburgh and London as a medium for either?

7. Whether the quality of the crop be proportionate to the degree of heat; or how far the temperature of the atmoſphere and quality of the crop coincide?

As the ſtate of the atmoſphere is ſo eſſentially connected with agriculture, I beg leave to propoſe, that ſome of your correſpondents in each county, from Tweed to Orkney, would keep a meteorological journal. I ſuppoſe a few pages of your Magazine would contain all their reports, and that theſe would give a tolerable idea of the quality of the crop in general, and particularly add to the ſatisfaction of many of your numerous readers, as well as that of

A BUCHAN CROFTER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

The Queſtion conſidered, whether Ruta Baga or Yams can be moſt profitably cultivated.

SIR,

I HAVE obſerved a good deal ſaid, in your Publication, on the culture of *ruta baga*, as a ſuccedaneum for turnip in the ſpring; and have paid conſiderable attention, not only to the arguments of your correſpondents, but alſo to the crops of that root, which have been raiſed for ſeveral years paſt in this country. With a full impreſſion of the neceſſity of having an article for the ſupport of live ſtock after the turnip ſeaſon, I am inclined to believe that the object, in general caſes, would be more effectually gained, were ruta baga laid aſide, unleſs upon very fine lands, and the variety of potato, commonly called a yam, ſubſtituted in its place.

The precarioufneſs of ruta baga as a crop, has been acknowledged by almoſt every one of your correſpondents who has treated upon the ſubject. It requires ſoil of the beſt quality, and a large doſe of rich dung, to inſure even a middling crop; therefore can never be generally nor profitably cultivated by common farmers. I am well aware, that a root of the ſame ſize is nearly of one third more weight than one of turnips, and that, in point of nouriſhment, there is alſo a very conſiderable difference. Still, after all, when we look abroad, and view the ſmall crops that are commonly raiſed, and take into account the ſuperior care beſtowed upon this root, it muſt be acknowledged that neceſſity, not profit, is the impelling cauſe of its culture.

On the other hand, yams preſent every advantage which can be got from ruta baga, and are not ſo pettiſh in their growth. Their culture is a matter of far leſs difficulty, as ſuch will grow upon ſoils where ruta baga would ſtarve. They require leſs manure, and may be planted as late in the ſeaſon as the other, thereby enabling the farmer to beſtow the like previous preparation upon the ground, the want of which is a general argument againſt ordinary potato huſbandry. By taking them up in October or November, they may be ſafely houſed, and the ground directly ridged up and ſown with wheat. No doubt, ruta baga may be removed at the ſame period; but it often happens that the root has not then reached maturity; its growth being rarely impeded till froſt ſets in.

I believe that very few crops of ruta baga, exceeding ten tons per Scots acre, have been got in this country, and that many do not exceed one half of that weight; while, on the other hand, I am pretty certain that ſixty bolls of yams, which amount exactly to twelve tons, may be got, were ſuch planted upon land ſimilar to what is uſually aſſigned to ruta baga; and preſume, that the nutritive

nutritive ſubſtance contained in a ton of each, is not materially different. Even under the ſuppoſition, that fifty bolls, or ten tons only, were gained, ſtill the preference ought to be aſſigned to yams, on account of the reaſons already mentioned.

If potatoes are ever to be extenſively introduced as an article of fallow crop, it muſt be with a view of occupying the place of ruta baga, or as the means of carrying on live ſtock, after turnips are conſumed, till the graſs ſeaſon arrives. During the ordinary ſeaſon of winter feeding, neither potatoes nor ruta baga can be furniſhed to ſtock on the ſame terms with turnips; though, when turnips are gone, the next beſt reſource muſt be ſought after. This, in my opinion, can be gained with moſt facility by raiſing yams, which, as already ſaid, are not ſo ſhy in growing, do not require ſo much manure, and thrive on ſoils where ruta baga would not yield a root much exceeding a common ſized egg.

Though yams are not to be ranked in value with turnips as an article of winter feeding, it deſerves attention, that they may be ſucceſsfully cultivated on ſoils phyſically unfit for the former root. In fact, the greateſt crops of yams are procured from heavy lands; the ſoft kindly ſoils, generally conſidered moſt adapted to potato culture, being unfriendly to the growth, or rather to the productiveneſs of the variety which I have been recommending. I am,

Sir, yours, &c. A RURAL ECONOMIST.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on Regulating the Value of Labour.
By Sir George S. Mackenzie, Bart.

SIR,

IN the note which you have made in reference to my letter of the 20th December laſt, I am ſorry to find ſome miſapprehenſion of the meaning of ſome part of it. To explain myſelf, is my chief object at preſent.

That the evil of the late unuſual advance in the price of labour is ſupported, in no inconſiderable degree, by the circumſtances of the country, cannot be denied; but that theſe circumſtances were *altogether* the cauſe of the evil, originally, or that they *alone* have been the means of ſuſtaining it, I am diſpoſed to doubt. The firſt increaſe of the wages of craftſmen (of whom, particularly maſons, we complain much more than of ordinary labourers) was excuſed by the laſt year of ſcarcity which this country experienced; and formerly, the price of labour, of every kind, was regulated entirely by the price of proviſions. No complaints were at that time made, on the preſumption, that when plenty again bleſſed the land, the uſual ſtandard for regulating the price of labour

bour would be again reſorted to. We were however diſappointed. And although ſome ſort of combination was evident, yet it was impoſſible to prove ſuch a combination as could be brought under the cognizance of the law. It alſo unfortunately happened, that there was a conſiderable demand for hands about the time when the ſcarcity ceaſed; and this demand being made by ſome of the moſt opulent proprietors, they were not aware of the miſchief their liberality would occaſion. I hinted in my letter, that the great undertakings already begun by Government in the Highlands, might be productive of ſome miſchief, if proper precaution was not uſed. The event has juſtified my apprehenſions; for our labourers already threaten to forſake us, if we do not comply with their demands. I have been told, that becauſe 1s. 6d. only was the wages given by the ſuperintendants of the Caledonian Canal, the workmen have threatened to leave it, or have actually left it. So much for the firſt paragraph of your note.

You obſerve, that I might have taken notice of the riſe in the price of wood. I intended, by the 'price of building,' to convey the price of every thing neceſſary for the completion of a farm-houſe and offices; and, not meaning to enter at length into the ſubject, did not notice each particular article required in the execution of ſuch erections.

Perhaps, when you obſerved that one year's rent of an eſtate is a moderate allowance for buildings over the whole, you did not perceive that my ſurpriſe, expreſſed at the beginning of my letter, was occaſioned by the whole rent being required for buildings on *one farm* only.

It is a common thing to allow one year's rent of a farm to the tenant for buildings; but I rather think the giving the whole rent of an eſtate to one farm, would be found ſomewhat inconvenient.

From the latter part of your note, a queſtion ariſes, which perhaps requires more able diſcuſſion than I can beſtow. Whether ought any reſtriction to be put on the value of labour? If ſome ſort of reſtriction was not neceſſary for the price of ordinary day labour, as we call it, that is, where workmen are paid for their time, and not according to the extent or uſefulneſs of their labour, I hardly ſuppoſe that the ſtatutes empowering the Juſtices of the Peace to regulate its value, would have continued ſo long in force, or be ſo uſeful as in many caſes they are found to be. This, however, may be truſting too much to the wiſdom of thoſe who framed theſe laws. The value of labour, I believe, may be generally in proportion to the difficulty of acquiring perfection in the art practiſed, and the time required to overcome that difficulty; to the demand for any ſpecies of labour, and to the price of the means of ſubſiſtence. The laſt of theſe is in a leſs degree concerned in the appreciation of ſuch kinds of labour

as

as require ſtudy, than in that kind of labour where no ſtudy is neceſſary; but ſtill it has, and certainly ought to have, ſome degree of influence. What we complain of is, that workmen, in the firſt inſtance, reſorted to the price of proviſions as their reaſon for raiſing the value of their labour; but will not allow us to reſort to the ſame thing, in order to leſſen the value of their work. Here there is no reſtriction on labourers, but a very ſevere tax upon their employers. If labourers inſiſt on our adhering to one criterion, whereby to fix the value of their labour, ought their employers not to have a right to inſiſt on their abiding by what they themſelves have pointed out to regulate their wages? I think they ought.

Where the time of labourers is all for which they are paid, reſtriction is, in my humble opinion, neceſſary. I think alſo, that the work of maſons and carpenters, whoſe arts do not require either much ſtudy or much time in their acquiſition, ſhould be in ſome meaſure reſtricted in its price, by adhering to the price of proviſions for its regulation. I ſhould be much gratified, were ſome of your correſpondents, whoſe ſtudies and experience qualify them for the taſk, to take up this ſubject, and favour us with their reaſonings. It certainly deſerves ample diſcuſſion, and is worthy of attention from the cultivators of the ſoil eſpecially. I am, Sir, yours, &c. GEORGE S. MACKENZIE.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requeſted concerning the moſt expeditious Way of Taking up the Roots of Trees.

SIR,

I SHOULD eſteem it a ſingular favour if any of your correſpondents will take the trouble to point out a more expeditious method of extracting roots of large trees, which have been cut down within theſe few years bypaſt, and are of courſe quite freſh in the ground, than that commonly adopted, of digging round them with ſpades, and cutting every fibre by axes and mattocks, which is attended with conſiderable expence, and is beſides a very tedious operation.

I have heard of inſtruments for raiſing ſtones of immenſe weight from the bottom of deep rivers; but never ſaw any of them. Perhaps a ſimilar apparatus might be uſeful in the caſe I have taken the liberty to ſtate. I am, Sir, your moſt obedient ſervant,

Cupar-Angus. J.

BRANCH

BRANCH II.

REVIEW OF AGRICULTURAL PUBLICATIONS.

Letters addreſſed to a Noble Lord on the Manufactures, Agriculture, and apparent Proſperity of Scotland. Mundell & Son, Edinburgh. Longman & Rees, London. 1804. 55 pp.

NATIONS, like individuals, progreſſively advance from youth to old age; and to contemplate them in the ſeveral ſtages of growth, furniſhes ample gratification to philoſophers. Theſe ſages, however, from the imbecility of human nature, are often led to form miſtaken notions concerning the age and health of the *body politic*, and to conſider it, when in full health and vigour, and hardly arrived at manhood, as far advanced in years, or labouring under a galloping conſumption. Perhaps the author of theſe well written, but declamatory letters, has fallen into the error we allude to; at leaſt, if ſymptoms of indiſpoſition are to be recogniſed, they are evidently much exaggerated and miſrepreſented by him.

Not many more than twenty years ago, it was apprehended, and not without reaſon, by ſeveral well-meaning people, that the Britiſh nation was rapidly haſtening to ruin. Our Tranſatlantic dominions had recently ſeparated from us. Almoſt every one of the Weſt India iſlands had been conquered by our ancient and ſworn foe. Our Eaſt India poſſeſſions were in imminent danger, and the great Company, to whom the trade to that quarter was excluſively committed, were on the verge of bankruptcy. Our connexion with Ireland was ſuſpended by a thread. We were deſpiſed and inſulted abroad, and torn to pieces at home by internal diſſenſion. Under theſe circumſtances, it did not require much confidence to prognoſticate, and apparently upon ſure grounds, that a dreadful criſis was approaching, and 'that the ſun of Britiſh glory was going to ſet for ever.' We have cauſe to rejoice that ſuch predictions remain unfulfilled; nay more, that Britain, at no period on record, preſented a healthier aſpect, or promiſed a longer political life, than at the preſent moment. The connexion with Ireland is ſecured upon a permanent footing. Our Eaſt India poſſeſſions are augmented to triple their former ſize, while our enemies in that quarter, who formerly threatened deſtruction to the Britiſh power, are completely overcome. The public

public revenue is augmented in a fourfold degree. Unanimity prevails at home, and the government is reſpected abroad.

At a time when inconteſtible evidences of public proſperity are to be found on every hand, it cannot fail to excite ſurpriſe, that a writer, certainly gifted with many talents for diſcuſſing political ſubjects, ſhould have brought forward ſuch a picture of national diſeaſe as is ſketched in theſe letters. What is ſtill more ſurpriſing, he reſtricts the dark lines of the picture to the northern part of the iſland, while, according to his deſcription, every branch in the ſouthern ſide ſhows a green and verdant aſpect. If luxury and ſpeculation are evils which will eat up our ſtrength, and tumble us into the grave, ſurely theſe evils prevail as extenſively in South Britain, as with us. Luxury, taking the word in the ſenſe in which it is generally underſtood, is a neceſſary concomitant of wealth, and ſo is ſpeculation of trade. In retail trade ſpeculation may be avoided; but where large wholeſale dealings are carried on, ſpeculation, in one way or other, unavoidably takes place.

But leaving theſe general topics to the conſideration of others, in whoſe department they are more aptly ſituated, we ſhall examine a few paſſages wherein the ſubject of agriculture is noticed. According to our author, 'The central point—the pivot on which our landowners, with all their wealth, and our citizens with all their folly, whirl round, is agriculture.'

On this ſubject it is difficult to preſent our author's ideas in a correct manner. P. 12. he ſays, 'Certain it is, that to the advancement of our manufactures for theſe laſt twenty years may be aſcribed, if not the rapid improvements in agriculture, at leaſt, in a great degree, the uncommon riſe in the value of landed property.' P. 13. 'That the ſpeculation of our manufacturers produced a ſpirit of ſpeculation in our farmers, there cannot be a ſhadow of doubt:' And, in p. 43. 'It would be an inſult to your Lordſhip's penetration to recapitulate what has been already brought forward, to prove inconteſtibly, that on the ſtability of our preſent ſtate of agriculture depends our preſent greatneſs.' What is all this, but arguing in a circle? To the ſucceſs of manufactures, improvements in agriculture are attributed. The ſpeculations of the manufacturer encouraged a like ſpirit in the farmer; and now when agriculture is improved, upon its ſtability depends the proſperity of the whole nation. How can this be, if it was the advancement of manufactures that firſt raiſed the value of landed property?

Speaking of Scotch country gentlemen, the following caricature, p. 20, is given:

'The *country gentleman*, who not many years ago reſided conſtantly on his eſtate, ſuperintended the culture of his paternal fields, and by his example ſupported a ſtation, which united conſequence with economy, and utility with rank, is, I am afraid, no longer to be found. If we find him in the country at all, it muſt only be during a few weeks in certain ſeaſons, regaling his faſhionable and gay friends with ſplendid magnificence, or in a perpetual round of viſits, where he and his faſhionable family are regaled in turn. But it is not in the *country*, my Lord, that we can hope to find this new planet moving in its proper orbit;—to trace its courſe, and contemplate its uncommon ſplendour to advantage, we muſt direct our eye to another hemiſphere. From the ſimple and neglected haunts of rural quiet, we muſt turn to more brilliant, more dazzling, regions of modern attraction—to ſome watering or public place of reſort, where its unobſcured beams diffuſe radiance around—to a trip acroſs the Britiſh Channel, on a viſit to our magnanimous invader; or to the annual faſhionable profuſion of our diſſipated and luxurious capital. It is there, my Lord, that we muſt now expect to find our plain reſpectable Scotch country gentleman ſuddenly transformed into the daſhing, modiſh, elegant man of faſhion and extravagance, enjoying the fruits of his lately acquired opulence; indifferent to every rural concern, ſave the collection of his *treble* rent-roll, and attentive to nothing but the eſtabliſhment of his ſplendid houſehold, the elegance of his retinue, the decoration of his perſon, and the delicacies of his table.'

Theſe things, however, are better ordered in England. Our author, p. 30, ſays,

'To thoſe who have had opportunities of mingling with people of various deſcriptions in England, and who have marked their manners, ſtudied their propenſities, and appreciated their tendency, the apparent opulence and proſperity, which we ſee there extended around us, ſo far from exciting alarm, produce, on the contrary, ſenſations of ſafety, ſatisfaction, and joy. While, for inſtance, we indulge the delighted eye with rural proſpects of plenty, induſtry, and univerſal comfort, we perceive nothing to impede this placid current of pleaſure; nothing ſtrained, or extravagantly ambitious, to draw aſide the gratified mind from a contemplation of what is judiciouſly moderate, to what is prepoſterouſly vain. We ſee, on the contrary, every thing in its proper place, moving regularly in an even, ſteady, undeviating courſe; the landed proprietor enjoying his uſual annual emoluments in plain, hearty, Engliſh hoſpitality; the tenant, cultivating his productive farms, neither diſturbed with apprehenſions of increaſed demands from his landlord, nor racking his fermenting brain with idle and ambitious plans of ſudden proſperity. From theſe calm and peaceful ſcenes of rural uniformity, ſhould we turn to others more mixed and buſtling, we ſhall ſtill find them not leſs gratifying. In all the hamlets, villages, and ſmaller towns, removed to any diſtance from the great capital of vice, and our great manufactures of corruption, we fail not to meet with an uniform conduct

duct of propriety, decency, and judicious economy,—the very reverſe of pervading luxury and refinement.'

It does not become us to ſay what degree of truth or juſtice there is in theſe two paſſages; but we know very well, that country gentlemen in both kingdoms are equally fond of a town life in winter; nor do we wonder at it, when we conſider how little they have to engroſs their attention at home in that dull ſeaſon of the year. A ſtranger would be led to believe from theſe letters, that the æra when country gentlemen began to take up their winter reſidence in great cities was cotemporary with the introduction of improvements. With regard to the 'decency and judicious economy' of the lower ranks in England, we believe the immenſe load of poor's rates affords ſufficient teſtimony, that ſuch are not one whit more frugal and induſtrious than their brethren in this country.

We perfectly agree with the author, that the farmer at this moment ſtands on very tickliſh and precarious ground; but our opinion is founded on very different reaſons from thoſe which ſeem to have influenced him. The value of produce is confeſſedly below that of money; hence a continuance of the preſent rates for any conſiderable time muſt neceſſarily bear hard upon agriculturiſts. We are far from thinking, that ſpeculation occaſioned the riſe of rents which has taken place within the laſt ten years. In fact, the firſt great advance upon land appeared in 1795, when markets for all ſorts of grain were uncommonly high. This advance was ſtill farther augmented by the prices of 1799, 1800, and 1801; though undoubtedly thoſe, who calculated (if any ſuch there were) upon theſe prices being laſting, acted very fooliſhly. Thoſe who argued from the depreciation of money, ſeem to have had at leaſt reaſon on their ſide. They found that a ſhilling would not command ſo much of any other commodity at market as formerly; and therefore very fairly inferred, that its value would be proportionally reduced when offered in exchange for grain. That the inference, however plauſible, has proved fallacious, is unqueſtionably true. In fact, the price of grain, like that of every other bulky and periſhable commodity, muſt be regulated at market, according to the quantity thereof preſented, and not by the plentifulneſs or ſcarcity of money.

We obſerve ſome very illiberal ſentiments concerning the diſtilleries, and the credits received by farmers at petty banks. On theſe matters our author diſplays much ignorance. He ſpeaks of the diſtillers ceaſing to work in 1797, whereas, except a ſhort ceſſation in 1795, they carried on to ſpring 1800, and opened again in November 1801. With regard to farmers keeping up wheat when it ſold at 3l., and ſelling it afterwards at 30s. or 35s., this is an old ſong, which has been ſung ſo often as to be-

come out of faſhion. Surely it was a bad arrangement, to claſs ſuch among the cauſes which influenced the riſe of land, and every article of agricultural produce.

On the whole, we are entirely at a loſs to aſcertain the object of theſe letters. If they were meant in ſupport of the agriculturiſt, it would have been well to have mentioned, along with the high rent paid to proprietors, the *ex poſt facto* advance thereupon, impoſed by the legiſlature, which, our author muſt allow, was laying an additional burthen upon a horſe already overloaded. In fact, we can only diſcover a well wrote declamation againſt luxury and extravagance, which, with a few alterations, would ſuit any country where money is plentiful, or where manufactures and agriculture are proſperous. Great and numerous as the evils are ſaid to be with which Scotland is afflicted, ſtill a ſingle cure or remedy is not pointed out. Does the author mean that improvements ſhould be diſcarded and manufactures ſuppreſſed, in order that 'the unſatiable love of gain' may be checked? If the Britiſh nation, or rather the Scotiſh nation, 'love money, and deſpiſe morals,' then we are free to ſay, that every quarter of the country preſents evidence at this moment ſufficient to refute the aphoriſm with which our author begins, and the aſſertion with which he concludes theſe letters. N.

Hints to Agriculturiſts. *By* William Dickinſon *Eſq.* *Printed at Newark*, 1803.

AGRICULTURE is a ſubject as little ſecured againſt the intruſion of ignorant and arrogant pretenders, as any other art or ſcience. This reflection we were led to make in caſting our eyes upon this pamphlet, which we had intended to review ſome time ago, but which had fallen into neglect from its intrinſic inſignificance. As, however, it is equally conducive to the advancement of real knowledge, to expoſe and to check preſuming ignorance, as to foſter and bring forward diffident merit, we therefore reſume our original purpoſe.

We obſerve, upon the oppoſite ſide of the title-page, a publication announced by this ſame author, upon the antiquities of Nottinghamſhire and neighbouring counties, and can hardly avoid being of opinion, that the author (however much *invitâ Minervâ*) has been tempted to intrude himſelf into the popular ſubject of agriculture, ſolely with the view of attracting attention to his other work. We readily admit, that a writer may be qualified to acquit himſelf reſpectably upon a ſubject which he has

has ſtudied, and which he underſtands, although he ſhould be found to make a very ſorry figure in raſhly attempting another, in which he is not in the leaſt converſant. Otherwiſe, were we to judge of the qualifications of the antiquarian of Nottingham, by that ſlenderneſs of capacity diſplayed in his *Hints to Agriculturiſts*, we would ſorely fear that his *Antiquities* would ſpeedily become antiquated, and remain a dead ſtock upon his hand. The truth is, the out-of-door operations of agriculture can contain no ſecrets or *myſtery*, like thoſe of manufacture; and every one (particularly in proportion to the ſuperficiality of his knowledge) deems himſelf capable to judge of, or write upon what, he imagines, he ſees practiſed daily under his noſe. From the leſs frequency, too, of ſocial intercourſe which agricultural operations can admit of—from the diſperſed ſtate of ſituation in which they muſt neceſſarily be carried on, ariſes a want of fluency in converſation among agricultural practitioners, which is apt to be attributed, moſt fallaciouſly, to a greater hebetude of intellects; ſo that every pert, glib-tongued ſhopkeeper, holds himſelf qualified to give the leſſons of a maſter to the more awkward clod-like farmer, even as to the buſineſs of his own peculiar profeſſion. Hence the numberleſs annual donations of moſt ſage advice to practical farmers, moſt charitably and gratuitouſly communicated in our newſpapers, by ſuch town cits as have chanced to have been traverſing the country. Whether the author of the *Hints* may fall under the above deſcription, or whether (if he really poſſeſſes the experience he would ſometimes lay claim to) he may not have been merely an *experimenter in flower-pots*, of which kind of experiments he has recorded a few—theſe are points, upon which, though we might conjecture, we are not in a ſtate competent to decide. Certain, however, we are, that no farmer, who reads theſe *Hints*, ſhall find from the lecture, that one ſingle hint has been given by which he ſhall be able to profit in any ſhape.

The author ſets out with declaring himſelf both an antitheoriſt and a theoriſt. He condemns theoriſts as proceeding upon chemical or mechanical principles which the practical farmer cannot underſtand. He equally condemns thoſe who merely detail practices without any appropriate theory, as leading to empiriciſm in agriculture, *i. e.* to practice without principles, or the indiſcriminate application of ſpecific *noſtrums* to all caſes equally without diſtinction.

'Science is grateful to the mind of every man, and is never rejected but where the real or ſuppoſed difficulties of obtaining it, deter him from the attempt. We have many works of genius and merit, of la-

bour and celebrity, on the ſubject of agriculture: ſo numerous indeed are they, that it might be ſuppoſed there could be no room left for new information, and ſtill leſs neceſſity for again inſiſting on the old. But the objections which have been made to them, are almoſt commenſurate with their quantity. Where they promiſe to teach agriculture as a ſcience, they are lectures on chemiſtry, on mechanics, or on mineralogy. Under the title of manures, they are, in fact, treatiſes on carbon, oxygen, and azote: profeſſing to conſider implements in huſbandry, they turn out to be eſſays on levers, axes, and rotatory motion: and where we expect to find a plain and ſimple examination into the properties of ſoils, we are ſurpriſed with an elaborate inveſtigation of phoſphoric acids, metallic oxydes, manganeſe and zinc.

'Where, according to the modern practice, their only object is to report experiments, it is to be lamented that they too frequently preſent a monotonous detail of facts without obſervation, or of obſervations without reaſoning; of advice without argument, or of argument without concluſion.

'Treatiſes, ſuch as theſe, may caſually and individually amuſe, but cannot generally inſtruct or diffuſe benefit. The former are only calculated to excite agricultural empiriciſm; the latter offer no encouragement to rational experiments founded on analogical deduction.'

Having thus, like Drawcanſir in the Rehearſal, cleared the ſtage entirely of the rubbith of all other books of agriculture, both ancient and modern, he brings forward his own propoſal after the manner of Mat, in Prior's Alma:

'Now, to bring things to fair concluſion,
And ſave much Chriſtian ink's effuſion,
Let me propoſe an healing ſcheme,
And ſail in middle of the ſtream.'

'It ſhall be the purpoſe of the few following pages to ſteer a middle courſe, borrowing only from philoſophical reſearch certain acknowledged *data*, and, without embarraſſing the mind with ſubtle diſquiſitions, merely apply the concluſions obtained, in ſuch a manner as may lead the agriculturiſt to a regular *ſyſtem* of experiment; not to detached and inſulated deviations, or capricious vagaries.'

Our author, like a ſkilful General who leaves nothing unſubdued behind him, commences his ſyſtem *from the very egg*.

'It will be readily conceded, that, to produce the fruits of the earth in the greateſt excellence, and the moſt uniform abundance, is the grand aim and object in agriculture; the means of accompliſhing this event the moſt intereſting ſubject of ſpeculation to the agriculturiſt.

'Earth, the immediate and oſtenſible parent of vegetation, merely as earth, has been deſignated by the name of a *paſſive principle*, a *caput mortuum*, and by various other ſimilar appellations; all, however, ſignifying nearly the ſame thing, and all tending to nearly the ſame concluſion;

cluſion; a concluſion, indeed, which has been verified by a thouſand arguments, and aſcertained by a thouſand experiments, and which amounts, in plain language, to nothing more than this—that earth, deprived of air, water, and elementary fire, commonly called heat will not produce vegetation.

'We may then, I think, take for granted this poſition, that vegetation is produced by air, water and fire, operating, in ſome way or other, mediately or immediately, on the earth!!'

The water, the fire, and the air, for the part of the vegetable ſtanding above ground, he obſerves, are furniſhed to our hand; but to get air adminiſtered to the ſeeds ſown, or roots growing under ground—*hic labor, hoc opus eſt.* The ſpecies of air required for vegetation, he obſerves (p. 12.), has been variouſly deſigned, 'but is now moſt commonly known by the appellation of *fixed air*, and, more philoſophically, by that of carbonic acid. In this conſiſts all, or nearly all, the doctrine of manures and the myſtery of vegetation.' * As to the mode of obtaining and applying this carbonic acid (pages 14. 15.), he modeſtly declines aſſerting poſitively, 'that it is produced by fermentation alone:' he thinks, however, he may poſitively aſſert, 'that it is generated by fermentation;' and is convinced himſelf (which undoubtedly is moſt important information), and wiſhes to impreſs it upon his agricultural neighbours (which is highly charitable), 'that in whatever proportion any ſpecies of manure will produce fermentation in the earth to which it is applied, in the ſame, or (obſerve the modeſty with which the victorious concluſion is puſhed) nearly the ſame proportion, it will, generally ſpeaking (ſtill modeſtly cautious) produce vegetation.'

* That this air, applied to vegetables above ground, is highly conducive to vegetation, has been aſcertained by experiment. The electrification of plants has, in like manner, been found alſo favourable to their growth. Our author, however, (and indeed all theoriſts, aiming at extreme ſimplicity of ſyſtem), ought to be reminded, that a principle, found powerfully productive of a given operation, in its ſimple uncompounded ſtate, may be productive of very different effects, when adminiſtered in a ſtate of compoſition with other principles. Though fixed air, applied to growing vegetables, and inhaled by the abſorbent veſſels of the leaves, promotes their growth, it by no means follows of courſe, that it would produce the ſame effect when combined with lime or other alkalis. Though a fiery ſhower, adminiſtered from a watering pan in the hand of the gardener, ſtanding upon an inſulating ſtool, and highly electrified, is found extremely conducive to vegetation, it by no means follows that the watering-pan, the proximate cauſe, cut in pieces—or the glaſs globe of the electrical machine, the remote cauſe, when comminuted to powder—would either of them conſtitute an efficient manure.

According, then, to the theory of this notable theoriſt, (who at ſame time is no theoriſt), the great principle of vegetation is *fermentation*, through the mean of the production of *fixed air*, *alias* carbonic acid; which is the true *pabulum vitæ* to the vegetable creation; and the only one, at leaſt, which, it would ſeem, human induſtry can ſupply.

Every *dabbler in chemiſtry* (to uſe an expreſſion of our author) knows that all pure alkalis are of a cauſtic nature, and that during this their ſtate of purity and cauſticity, they greedily abſorb aerial, *alias* carbonic acid, from the atmoſphere, till they are ſaturated and neutralized, or rendered mild; that the attraction, however, betwixt alkalis and this carbonic acid is ſlight, in compariſon with the ſuperior attraction they have for other acids; and that, upon expoſing, therefore, mild alkalis, *i. e.* alkalis that have abſorbed carbonic acid, to the action of acids for which they have a ſuperior attraction, the carbonic acid is diſlodged, and the other acid taken up in its room; that the carbonic acid, (which, in combination with the alkali, had remained in a fixed ſtate), upon quitting it, reaſſumes its aeriform nature, and in eſcaping forms a hiſſing noiſe, or an ebullition, if the acid applied to diſlodge it is in a liquid form, whence heat too is generated. Vulgarly, this ebullition, hiſſing and effervescence, has been deſigned *fermentation*; and accordingly limeſtone or marl are ſaid, vulgarly, to ferment with vinegar or other acids: But even though the word *fermentation* ſhould be retained in compliance with common uſage, we could hardly have conceived that even the moſt ſuperficial dabbler could have been capable of confounding this ſort of fermentation with thoſe properly deſigned fermentations, *viz.* the *vinous*, the *acetous*, and the *putrefactive*.

That what our author had in view (if indeed he had any definite ideas at all, which we very much doubt), in eſtabliſhing his *fermentation* as the great principle of vegetation, through the production of fixed air, was merely the ebullition and effervescence above deſcribed, and by the vulgar called *fermentation*, is evident, not only from the inſeparably characteriſtic *modus operandi* aſcribed to it, being *the production of fixed air*, but alſo from a variety of particular paſſages in the pamphlet, in which this ebullition or effervescence is particularly deſcribed as conſtituting his fermentation; but our bounds will allow us only to make the following references—page 18. foot note; page 21. (in the midſt of a moſt abſurd diſſertation on lime *); page 23.; and page 34. at top.

The

* Every dabbler in chemiſtry knows that the effect of burning is to expel the carbonic acid from lime, after which, the lime is in a purely cauſtic

The great bulk of the pamphlet is taken up in illuſtrating and confirming this moſt luminous, and certainly moſt compendious theory,

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cauſtic alkaline ſtate; in which ſtate, like other alkalis, it greedily abſorbs water. The effect of the application of water, whether poured on by man, or abſorbed from the moiſture of the atmoſphere, is, to make the burnt limeſtone crumble into powder with the generation of heat; and this internal commotion of parts, the author might, with equal propriety, have deſigned *fermentation*, as the ebullition and effervescence already mentioned to which he has given that deſignation. So long as lime remains in its pure alkaline cauſtic ſtate, diveſted of carbonic and of every other acid, it is, like all alkalis in the ſame ſtate, in readineſs to abſorb *quietly*, and without any ſymptoms of our author's *fermentation*, any acid that is applied to it—excepting indeed the *fermentation* of *crumbling into powder*, which the water, in which the acid applied may be diſſolved, will occaſion. Lime, however, cannot remain long in its cauſtic alkaline ſtate, but is ſpeedily neutralized and rendered mild (or, in fact, it reverts to its original ſtate as limeſtone), by reabſorbing the carbonic acid that had been expelled by burning, greedily taking it in, in proportion to its expoſure of ſurface: And in this ſtate alone is it ſuſceptible of our author's *fermentation*, *i. e.* the ebullition and effervescence occaſioned by the eſcape of the carbonic acid in an aeriform or gaſeous ſtate, when expelled by another acid having ſtronger affinity to the alkali of lime.

What, then, does our author underſtand by his diſtinction of lime (page 9.) into two kinds; the one, 'ſoft, mild, and lixivial,' (lixivial, according to our interpretation of Engliſh, implies a fluid in which any ſalts are diſſolved); the other, 'dry, acrid, cauſtic?' We know that limeſtones differ according to the quantity of the foreign admixtures they contain of ſand, or clay, &c.; but we certainly conceive it as eſſentially characteriſtic of all lime *qua lime*, to be *acrid* or *cauſtic* (which are the ſame thing), when new burnt; and to be *mild* or *ſoft* (which we underſtand to imply the ſame ſenſe), ſo ſoon as neutralization takes place by ſaturation with an acid—whether by the fixed air abſorbed from the atmoſphere, or by any other acid applied.

What does he mean by telling us (pages 21—23.), that great care muſt be taken, in liming land, to proportion the quantities of the alkali to the acid, to ſecure the greateſt poſſible fermentation, and to avoid the exceſſive preponderance of either, in fear of defeating this intention,—but that the preciſe equilibrium, which chemical nicety would ſeem to require, is not eſſentially neceſſary in practice; becauſe, 'even if the quantity of lime uſed be at almoſt any point below extreme profuſion, its own powers of abſorption will preciſely apportion the attraction of atmoſpheric acid, and regulate the proceſs of fermentation?' After our previous obſervations above, our readers can judge for themſelves. We certainly, in the courſe of our reading, have hardly met with ſuch bulk of oſtentatious abſurdity wrapt up in ſuch ſmall volume.

theory, by attempting to point out the effect of ſaid *fermentation* produced by various manures, as lime, *yard muck*, excrement human and brutal, marl, blood, urine, bones, ſcrapings of roads, ſawings of timber, together with fleſh, fiſh, and ſea weed. Here, however, the ignorant author allows the change continually to be put upon him by the ſimilarity of ſounds. If he can only find that the word *fermentation* is ever applied to the alterations which any of theſe bodies undergoes, no matter whether the vulgar or ſcientific fermentation; immediately his ebullition or effervescence, diſengaging air, occurs to his imagination; the production of which air he has aſſerted to be the true vegetable *pabulum*.

'Thus in the London 'prentice ear,
The bells ſound Whittington Lord Mayor.'

If carbonic acid, too, can be properly mentioned as interfering, in any manner, in the changes of ſuch bodies, the effect is the ſame upon our author;—here is my *pabulum*—here, therefore, muſt there be a beneficial effect upon vegetation. Accordingly, whether a mild alkali, coming in contact with an acid, ſends out its carbonic acid, or whether a cauſtic alkali abſorbs into itſelf the carbonic acid—ſtill, as this acid, *alias* fixed air, is ſomehow concerned in the tranſaction, vegetation muſt of neceſſity be promoted; for this air is the veritable *pabulum*. Probably the Nottingham vegetables are ſo clever and alert, that they can even catch a refreſhing gulp of this air *in tranſitu*; whether in its paſſage *to*, or its paſſage *from*.

Perhaps our readers may think that we have allotted too much ſpace to the diſſection of ſuch a *jejune* performance. In the author's own words (page 42.), 'the reader's curioſity is perhaps, by this time, ſufficiently diſappointed, even if his patience be not entirely exhauſted.'

We ſhall cloſe our remarks, by juſt obſerving that we would not have dwelt ſo long upon ſuch a futile ſubject, were it not that theſe Hints carry with them an impoſing appearance, that might miſlead the unwary to beſtow attention, where they can reap no poſſible information upon any one point. The author has formed to himſelf a Johnſonian, ſonorous ſtyle; he ſeems to have obtained that ſmattering of the ſciences connected with his ſubject, which has initiated him into, and enabled him to mouth, with a ſort of mock dignity, the ſcientific phraſes; and without ſuch an analyſis, he might have paſſed for ſome time *incognito*. For it is not always that

'Fools are known for looking wiſe;
As men ſhoot woodcocks by their eyes.'

We had almoſt forgotten one remark that occurred in the peruſal, but which was ſuggeſted anew by the pamphlet happening

to

to lye open before us as we concluded. In page 34. at top, the author ſpeaks of a *fixed volatile alkali*. We have certainly heard of a *fixed alkali*, and of a *volatile alkali*, characterized as different by their reſpective fixedneſs or volatility; as we have alſo heard of hard water and of ſoft water; but we never before have heard of a *fixed volatile alkali*, more than of a *hard ſoft water*.

The work is dedicated (with or without permiſſion, is not ſaid) to the Marquis of Titchfield, Preſident, and the other Members of the Newark Agricultural Society.

C.

Statiſtical Survey of the County of Cavan, with Obſervations on the Means of Improvement: Drawn up in the year 1801, *for the Conſideration, and under the Direction of the Dublin Society.* By Sir CHARLES COOTE, Bart. Dublin: Printed by Graiſberry & Campbell.

IRELAND is a country which, at preſent, has many claims upon our attention. From its peculiar circumſtances, we can hardly be able to regard it with indifference, while its cloſe connexion with our own iſland engages our ſelfiſhneſs, as well as our ſympathy. The moral and political condition of the people muſt intereſt the ſtateſman and philoſopher; while the face of the country, and its ſtate of improvement, equally demand attention from every one who deſires the proſperity of agriculture. It is the laſt of theſe topics which properly falls within our province. Ireland, as an agricultural country, has many phyſical advantages; but the moral obſtacles, which have hitherto impeded improvement, will not, we fear, be ſoon removed. From the natural advantages of that country, and its long and intimate connexion with Britain, it might have been expected to have made conſiderable improvement; but it is ſtill far behind many parts of this iſland which have been leſs favoured by nature.

We rejoice to ſee Agricultural Societies formed, and Agricultural Surveys executed in Ireland, as both indicate an increaſing attention to the moſt uſeful of all arts, and may contribute ſomething to its advancement. We wiſh our brethren, over the water, all ſucceſs, and ſhould be happy ſoon to receive leſſons from them that are at preſent ſo far behind us. There is very much to be done, however, before they ſhall rival us, and much that Agricultural Societies cannot effect. Capital muſt be created, and employed in cultivating the ſoil; property muſt be rendered more ſecure;

ſecure; the buſineſs of the farmer muſt be ſeparated from that of the mechanic; and habits of ſobriety and induſtry become more general, before agriculture flouriſh. It will require time to accompliſh ſuch important matters, and we are almoſt tempted to imagine that ſome radical change in the ſtate of ſociety will be previouſly neceſſary.

The county of Cavan is not one of the beſt parts of Ireland, and, in the volume before us, it certainly does not appear to the greateſt advantage. This work is not calculated to give us a favourable opinion either of its author's abilities, or of the diſtrict which he has ſurveyed. Situated in the province of Ulſter, at an equal diſtance from the Iriſh Sea and the Atlantic Ocean, it contains 301,000 plantation acres, and about 90,000 inhabitants. The land is divided by the author in the following manner:

	Acres.
Arable lands, paſture and meadow	267,500
Rivers and lakes	3,500
Woods and plantations	3,000
Roads, towns and villages	3,000
Mountain, bog and waſte	24,000

The average rent is ſtated to be fifteen ſhillings *per* acre; and this, we are informed, is nearly double what it was twenty years ago. This would ſeem to intimate a conſiderable degree of improvement within that period. What muſt have been the condition of the country previous to it, we are at a loſs to conceive.

The county of Cavan is conſiderably elevated, and, throughout, diverſified with hill and dale. From this circumſtance, together with its proximity to the Atlantic and Iriſh Sea, we may naturally expect the climate to be uncertain, cold and boiſterous. We ſhould expect an exceſs of moiſture, too, though the author ſeems to intimate the contrary. The mountainous diſtricts are, for the moſt part, appropriated to the grazing of young cattle; while the low lands are in conſtant tillage. Perhaps the moſt important general improvement which this county could receive, would be to apply it principally to paſturage. This, however, is impoſſible, while it is parcelled out into farms, as they are called, of nine acres each.

We ſhall not enter into any particular detail of the matter contained in this work, as it could be little intereſting to the bulk of our readers; and, with regard to an analyſis of the volume itſelf, we deem it impoſſible. The author communicates ſome information which it might be worth while to know, and makes ſeveral well-meant and ſenſible remarks, but they are ſcattered with ſuch irregularity, and buried under ſo much rubbiſh, that

we

we cannot undertake to dig them out, and present them in any systematical order.

In the first six chapters, we have a geographical description of the county, accounts of the state of property, buildings, mode of occupation, implements, enclosing and fences. In these chapters much miscellaneous matter is introduced, many digressions are made, and many very needless repetitions. The next five chapters contain a particular account of the eight baronies into which the county is divided. The last five chapters are devoted to rural economy, political economy, general tables, farming Society, and a conclusion. Our readers will easily perceive, that, by his method, if method it can be called, the author has unnecessarily perplexed his subject. By giving a general view of the county, and a particular one of each barony, the same topic has been introduced eight or nine times, which, besides tiring and disgusting the reader, has rendered the work far larger than the matter contained in it required.

A pretty just idea may be given of the state of agriculture in this district, by merely mentioning that the largest class of farms average thirty acres, and the least seven; but that, as the latter bear a proportion of ten to one to the former, the medium of the whole may be taken at nine. The mode of cultivation, in what our author considers one of the best managed baronies, is, 1. Potatoes in lazy beds; 2. Potatoes, the beds where the trenches were the preceding year; 3. Part of the land flax, the rest oats, and these continued for two or three successive crops; the land afterwards abandoned to grass—we say abandoned, for it is neither cleaned, nor sown with grass seeds. This system needs no comment. The state of the peasantry in the mountains of Cavan is represented as truly deplorable. 'In civilization,' says the author, p. 21, 'they have made no proficiency; for the very wealthiest of these mountaineers have no better bed than straw, nor is a bedstead to be seen amongst them, but they indiscriminately herd together with the hogs and all the domestic animals of the hovel.' This description is introduced with a severe, but just reflection upon the proprietors of those mountains. 'As to reclaiming of these mountains, which would return such a fair and honourable income, they have not the remotest idea; and it is astonishing to see with what peculiar care they preserve their game on these extensive wilds, without the least regard to bettering the condition of their tenantry, whose state of uncivilization is, indeed, a pointed reflection on the supineness of their lords.' These proprietors are evidently as inattentive to their own interest, as they are devoid of benevolence. From the size of farms, and mode of cultivation prevalent,

valent, it is evident that the condition of none engaged in agriculture as a profeſſion can be very comfortable. The author tells us, indeed, that the ſubſtantial farmers, in one place, have good family houſes; and that, in another, neat and commodious houſes are building two ſtories high, with every neceſſary apartment. Theſe are built at no leſs a coſt than 60l.; which, he adds, 'is quite too much!' We ſhall leave our readers to form their own opinion of a ſubſtantial farmer, where the average of the largeſt farms does not exceed thirty acres, and of a commodious farm houſe, which is quite too expenſive at 60l.

The leaſes in this county are generally granted for twenty-one years, and a life, or three lives, or thirty-one years. To the firſt and ſecond of theſe we have ſtrong objections. Experience ſhows that every leaſe, the duration of which depends upon ſuch an uncertain thing as human life, is unfavourable to improvement. Whether the term be one life, or three, or thirty, there muſt be a period, during which the fear of loſing will withhold the means, even of ordinary increaſe; and the ground muſt be injured. No leaſe therefore ſhould be for a life, or lives, merely; and if for a life, and a definite period, the definite period ſhould be laſt. The third ſort of leaſes is certainly the beſt; though even this, taking a liberal view of the intereſt of landlord and tenant, is perhaps exceptionable: unleſs where land is in a very unimproved ſtate, and demands the outlay of much capital, thirty-one years may be too long.

The uſual leaſes in Cavan contain ſeveral clauſes, which we cannot but conſider groſsly abſurd. The proprietor reſerves to himſelf the right of looking after game; the tenant is bound to pay all taxes impoſed, and to be impoſed; there muſt be no alienation of leaſe, under penalty of double rent; no paring or burning, &c. &c. It does not leſſen the injuſtice or abſurdity of theſe clauſes, that they may be found in leaſes which were not manufactured in Cavan. We have not leiſure to enter into an examination of theſe points at preſent, but find no difficulty in laying it down as a general principle, that good policy, as well as juſtice, requires the holder of a leaſe to have as complete and excluſive power over the premiſes, during his occupancy, as if he were proprietor, and only be prevented from doing what might leave the property in a worſe ſtate than he found it. Any thing ſhort of this, muſt reſtrain and embarraſs the tenant in his exertions, and prevent him from reaping the full benefit of his capital and talents. We were ſurpriſed to find the author, whoſe principles ſeem not to be generally illiberal, lamenting that ſome of the above clauſes are not ſtrictly enforced.

The author introduces ſome doctrines, to which we find ourſelves

ſelves by no means diſpoſed to ſubſcribe. The abolition of fallow ſeems to be a favourite idea; he introduces it at p. 19. and again at p. 226. Among other reaſons which he aſſigns for his favourite doctrine, he alleges that the ground will not be injured by too much expoſure to the atmoſphere. 'A very eminent agriculturiſt,' ſays he, 'aſſerts, the more that the ſoil is ploughed in ſummer, the more is the vegetable food exhauſted.' We mean not to enter into any controverſy with this eminent agriculturiſt, but ſhall only ſay, that we generally expect the beſt crops, when our fallows have been moſt completely wrought; and this ſame expectation or prejudice perhaps is founded, we imagine, on experience. The author ſeems to have thought of fallow, for no other purpoſe, but that of reſting the land: 'We will find,' ſays he, 'by introducing intermediate vegetable crops, we entirely aboliſh the uſe, or rather the abuſe of fallow, which the moſt celebrated writers on agriculture, and the beſt farmers, now entirely condemn.' We know not what he means by vegetable crops; the crops, with which we are acquainted, are all vegetable. But, was the author really ignorant that even good farmers ſometimes think fallow neceſſary for cleaning land? To contend againſt it as neceſſary only for reſting the land, is to combat a man of ſtraw.

The author expreſſes himſelf in ſtrong terms, too, on the numerous diſadvantages of broadcaſt, and pronounces it to be high time that it were expelled for ever. We venture to predict, that he ſhall never ſee this happy revolution in agriculture accompliſhed. Does he ſeriouſly think that drilling could be advantageouſly introduced for all crops in the 'ſtiff brown clays' of Cavan, for inſtance? It is ſurpriſing that even ſenſible men ſhould ſo often ſuffer themſelves to be miſled by theory, and found general rules upon particular and local inſtances. Becauſe, upon ſoft and pliable ſoils, drilling may be preferable, ſhall we conclude that it ought to be practiſed likewiſe on the moſt hard and obdurate? We might as well inſiſt, that armed rebels ought to be treated with the ſame gentleneſs as peaceable and loyal ſubjects.

We find no portion of this work ſet apart for diſcuſſing the obſtacles to improvement, but only occaſional facts and remarks relative to this ſubject, which deſerve attention. The county of Cavan cannot be ſaid to ſuffer from any tax directly on land. The only burden of this kind is a ceſs, which does not exceed 3½d. *per* acre; but it is laid on in a manner ſomewhat curious. The county is divided into 8000 carvaghs, and the ceſs is laid on at ſo much *per* carvagh; though we are told (p. 221.) that ſome of theſe contain thirty acres, others not more than five, and no material difference in the quality of the ſoil. Human ingenuity could

could ſcarcely deviſe a mode of taxation more groſsly abſurd, or more palpably unjuſt.

Tithes ſeem to be a conſiderable evil in this county, both from the principle by which they are laid on, and the manner in which they are exacted. Land in tillage is titheable by the acre; meadow land pays no more than 6d. for what is in one perſon's poſſeſſion (and we ſuppoſe in one field), were it a thouſand acres: This is a mode of tithing for which no argument can be offered. The tithes, it would ſeem, too, are exacted with conſiderable rigour: This is not to be imputed to the clergy, who, in fact, are not the collectors, but to a kind of animals called proctors, who have farmed the tithes, and, no doubt, wiſh to make the moſt of their bargain. The author ſpeaks with warmth on this ſubject, and we give him credit for his feelings; but he is not aware, perhaps, of the cauſe of the evil. The truth is, the clergyman knows how unpopular tithes are, and what riſk may ſometimes attend the collecting of them: he is willing, therefore, to diſpoſe of this dangerous property at a very inferior value. The proctor, impelled by intereſt, and unreſtrained by any motives of delicacy, levies the tax with rigour. Thus, the occupier of the land is oppreſſed, and the clergyman enjoys not the legal fruit of his labours.

The ſmall ſize of farms, and their being generally occupied by perſons engaged in ſome other employment, muſt be regarded as preſenting a powerful obſtacle to improvement. Agriculture cannot proſper where it is not followed as a ſeparate employment, and where one perſon does not poſſeſs as much land as may furniſh occupation to himſelf, without manual labour, and ſufficient ſupport to his family. No perſon could farm, in the county of Cavan, to a ſufficient extent, without turning out perhaps a hundred of their ſmall tenants; and he muſt be a bold man, indeed, who, in the preſent condition of Ireland, ſhould undertake to bring ſuch a neſt of hornets about his ears.

We have always been of opinion, that the maſs of the Iriſh people can neither be proſperous nor happy, till ſome effectual means are employed to inſtruct them. We coincide entirely with the author in his ſentiments on this ſubject; and, from his ſtatements, it is manifeſt, that conſiderable blame is imputable ſomewhere. Very ample funds have been originally ſet apart in ſome places for maintaining ſchools, which are almoſt totally neglected. Do they, whoſe duty it is to direct ſuch matters, think, like ſome other great men, that the common people ſhould be kept as ignorant as poſſible? Or do they regard ſuch affairs as unworthy of their notice? Ireland has furniſhed not a few arguments of late to ſhow the danger of ignorance.

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We ſhall diſmiſs the work with a ſingle remark on the ſtyle. We do not expect elegance on ſo plain a ſubject, but have a right to demand perſpicuity; and there are many paſſages which in reality cannot be eaſily underſtood. This could hardly be pardoned in a plain practical farmer, but far leſs in a gentleman who muſt be ſuppoſed to have got a liberal education.

We ſhall give our readers a ſpecimen of compoſition, which is confeſſedly too hard for us, p. 112.

'That turf is evidently engaged in active vegetation, cannot be denied, as numerous inſtances are in every county of bogs affording new fuel, which have long ago been cut out; the antiſeptic quality of bog is eaſily accounted for by the quantity of timber it contains. It is this which prevents the water from putrefying which is ſhut up within it, and cannot be changed; elſe, was a running ſtream paſſing through it, it would quickly rot and be converted into earth; therefore we muſt ſuppoſe that, in early ages, before theſe foreſts had fallen, the vicinity of moraſſes, which now are bogs, were as remarkable for their unwholeſome damps and fogs, not having yet received the aſtringent principle which the timber conveys, as they are at preſent for their ſalubrity, which is occaſioned by their poſſeſſing that principle imparted by the trees, which they cover. And this may account why this iſland was ſo poorly inhabited, and ſo overrun with immenſe foreſts.'

We have thus ſpoken freely of the work, and muſt take the liberty to ſay a ſingle word of the author. We have been uniformly pleaſed with the benevolence which he on all occaſions manifeſts. His intentions always appear ſuch as become the lover of his country, and the friend of man. His failings, even as an author, lean to the ſide of virtue. This we add, with the greater pleaſure, as our remarks may ſeem ſevere: But we have been reviewing a book, not a man; and our opinion of an author ought not to influence our judgement of his work. At the ſame time, though the character of authors falls not within our province, it would certainly increaſe our ſatisfaction to find equal proofs of benevolence in works on which the laws of criticiſm muſt pronounce a more favourable ſentence.

H.

BRANCH III.

Agricultural Intelligence.

Few ſpring ſeaſons have been more unfriendly to rural matters than the preſent; indeed, none within the compaſs of our remembrance, except thoſe of the fatal years 1782 and 1799, can be compared to it. Alternate ſnow, ſleet, rain and froſt have, leſs or more, prevailed ſince the beginning of March, which cauſed ſeed-work to be executed, as if by ſtealth, in every fair interval. The air has been conſtantly cold, blowing generally from the northern and eaſtern points: vegetation was thereby in a great meaſure ſuſpended; and, except the fields of winter wheat, the moſt part of the iſland at this date (April 25.), uniformly preſents nothing but a black aſpect.

Under theſe circumſtances, we cannot, but with regret, open this department of our work, becauſe we apprehend they will lead to more melancholy details at an after period. From every account tranſmitted to us, it appears that the important operation of depoſiting the ſeed in the ground has rarely been performed in a huſbandman-like ſtyle, and that in many inſtances the work was delayed to the very laſt moment. Unlike what happens in ordinary years, when thoſe poſſeſſed of the greateſt ſtock of patience ultimately become moſt ſucceſsful, every moment's delay augmented the periculous ſtate in which the farmer was unfortunately placed. In a word, little ſpring wheat was ſown in any diſtrict; in many, where the practice is cuſtomary, none was ſown at all. The oats were poſtponed beyond the time when they can reaſonably be thought to be ſown with ſucceſs; and are not all in the ground at this day, even in the beſt cultivated counties. Beans were a full month later than their uſual term of ſemination; and this of itſelf is a ſource of future evil: It ſubjects the farmer to all the conſequences of a late harveſt, and alſo to its uſual concomitant, a bad wheat ſeed-time afterwards.

It cannot excite ſurpriſe, that the grain markets have of late ſhown a diſpoſition to riſe, becauſe ſuch would inevitably have happened, though the ſeaſon had proved as favourable as it has been unpropitious. From a combination of cauſes, the moſt of them well underſtood, a greater quantity of grain was thrown into the public market through the courſe of winter than uſual, which tended to exhauſt the ſtack-yards at an earlier period than conſiſtent with the regular ſupply of the year. The great market of the kingdom in Mark-lane has not yet felt any diminiſhment of its ſtock, conſequently preſerves ſomething like an equability of price: But, as happens with large rivers, the ſmaller ſtreams muſt be leſſened before the main body is affected; ſo the centre market is always the laſt that undergoes a material change. If grain becomes ſcarce in the provincial markets, a proportional diminution of ſupplies for the capital muſt take place. Perhaps even the ſpeculation, which neceſſarily

neceſſarily prevails at ſuch times, haſtens forward the riſe which eventually would happen, though at a more diſtant period. In ſuch caſes, ſpeculation is no evil; the public are thereby put upon their guard, and means are uſed to make up for the exiſting deficiency.

The butcher market has continued at much the ſame rates as ſtated in our laſt; but a very conſiderable declenſion has been effected upon the price of lean ſtock. The great loſſes upon ſheep, at the end of laſt ſeaſon, rendered the graziers exceedingly cautious in making their purchaſes; and the general failure of young graſſes contributed to leſſen the demand conſiderably. This laſt circumſtance has occaſioned a general riſe in the rents of old paſtures; theſe having, in many caſes, advanced fully 30 *per cent.* above what was promiſed laſt year. The backwardneſs of vegetation, and the want of turnips, muſt be ſeverely felt upon grazing farms, eſpecially where ewes and lambs are kept: upon upland farms, the diſtreſs muſt be dreadful.

We rejoice to ſee the malt tax taken ſeriouſly under the conſideration of Parliament, being ſatisfied that a diſpaſſionate diſcuſſion muſt prove of material benefit to Scotiſh huſbandry. The Committee appointed to conſider this buſineſs, conſiſt of gentlemen of diſtinguiſhed abilities. Sir John Sinclair is chairman. We learn, that our good friend and intelligent correſpondent, Dr Skene Keith, has been called to attend the Committee, and truſt that his evidence will be eminently uſeful. Several other perſons have gone from this country upon the ſame buſineſs. A ſeparate Committee is alſo appointed for reviſing the corn laws, and much need they have of a reviſal. Theſe things prove the attention ſhewn by Mr Addington to the hitherto much neglected ſubject of rural economy.

In many counties, little progreſs has been made in ſettling the property tax, and in ſome no ſtep has as yet been taken. We are decidedly of the ſentiments formerly expreſſed, that the principle of the tax, ſo far as it affects the tenantry, is formed in error and injuſtice. No tenant at rack rent in Scotland enjoys an income equal to one half of his rent, which is the principle aſſumed by the act in queſtion. In fact, we know of tenants, latterly entered to farms, who are loſing a good deal of money, notwithſtanding that their gains and profits, according to this rule, are conſidered to be extenſive. Setting aſide the principle, which cannot be defended, except upon motives of conveniency, we are clear that the clauſes need material amendment; as, for inſtance, the year's rent, upon which the tax is to be calculated, is not aſcertained in any part of the act, at leaſt it has been differently interpreted. A plain man would think that the current rent or value of a farm muſt be meant; but ſome of the ſage expounders entertain a different opinion. They have declared that it is the rent of the preceding year that muſt be aſſeſſed; and many counties have proceeded by this rule. At firſt ſight, it may be imagined, that it is all one thing which year is taken, if the tax is to be levied according to the real value; but a ſlight conſideration will diſplay the ſubject in a different view. Suppoſe A. B. poſſeſſed land at a very high rent for 1802 and 1803, which he gave up at the ſeparation of the laſt mentioned crop from the ground, he may,

according to the method generally adopted, be rendered liable to the tax for two years, inſtead of one, as ſhould, in equity, be the caſe. According to the latitude thus taken, a farmer may be rated as enjoying income out of lands from which he has quite removed, notwithſtanding the act ſays that the occupier is in all caſes liable. The many blunders and errors in the act call loudly for a reviſion of many clauſes thereof; and when this is done, we truſt the principle will not be neglected. It gives us pleaſure to add, that the opinion given in our laſt, reſpecting the tenant's right to one eighth of deduction from rent, is now completely aſcertained.

We learn, that the labourers at the Caledonian Canal, and other public works in the northern counties, have either deſerted, or threatened to deſert, if their wages are not augmented. It would be a pity that thoſe great national undertakings ſhould be converted into an engine for raiſing the value of labour. They were principally intended, we believe, as a ſource of employment to the people in the Highlands; ſomething of the kind being neceſſary, after obſtacles had been thrown in the way of emigration. But if 18d. *per* day has been refuſed, as we are informed has been done, this circumſtance muſt afford ſure evidence that the people are in a comfortable way. When barracks were erected laſt year, the urgency of the caſe called for completing them ſpeedily, though the expence was enormous; but as to the northern improvements, no ſuch urgency can be adduced. If intended chiefly, as we believe they were, for giving employment to the people, a temporary ſtoppage can be attended with no harm, ſeeing that the fact itſelf proves that ſuch employment is not called for by the circumſtances of the country. In this way, wages may be regulated; never by any poſitive enactment.——*April* 25.

Extracts from private Correspondence.

SCOTLAND.

Letter from Galloway, April 12.

'I think the ſoil of this diſtrict, generally ſpeaking, is excellent for turnips and potatoes, but not calculated for wheat. The fields of the former, which I cultivated laſt ſeaſon, were of a very ſuperior quality to ordinary crops; but the latter, though promiſing well at firſt, yielded ſmall grain, and not altogether free of ſmut, notwithſtanding that every attention was paid to the pickling proceſs. Corn markets have been very dull for ſome time paſt. Oats, in the beginning of the ſeaſon, were 26s. to 27s. *per* 12 buſhels, but now are ſelling ſo low as 20s. to 22s. Good potato oats for ſeed are 30s. to 32s.; this kind, and *dun* oats, are much uſed with us. Cattle markets are very dull. Some people, whoſe *keep* is exhauſted, are ſelling at prices which will allow little or nothing for the turnips uſed; and I ſhall be glad to learn how the gentlemen in the eaſtern and ſouthern counties, who have taken turnips at 8l. to 10l. *per* acre, are to make out theſe prices.

'We have had much wet weather lately, with ſome froſt and ſnow; all

all of which combined, rotted, in a great meaſure, the remainder of the turnip crop. Seed-work has gone on very poorly. I began ſowing laſt week, but have got nothing done to my mind. The weather, however, now getting dry, I hope to finiſh the work with ſome degree of pleaſure.'

Letter from Falkirk, April 14.

'The circumſtances of the laſt quarter muſt have put both the reſignation and patience of the farmer to a very ſevere trial indeed.—Reſignation, under a ſtate of markets the moſt diſcouraging, and altogether unequal to the expence of bringing forward his produce, ſo as to enable him cheerfully to meet term-time without the neceſſity of aid from ſome other ſource, perhaps even driven to the ruinous expedient of touching his capital;—patience, under a vexatiouſly variable and inclement ſtate of the weather, for carrying forward the operations of ſeed-time, which has in conſequence been thrown uncommonly late, and which muſt be conſidered as at leaſt an unfavourable circumſtance to the enſuing crop. I believe we are as far forward as in many other places, where they have even a more kindly ſoil than our carſe to manage in ſuch a ſeaſon. The very favourable weather in the early part of winter had, however, greatly advanced the operations of the field; and ſome fine dry weather in February allowed the beans to be generally well got into the ground, and even, at that time, a few oats were ſown; but through almoſt the whole of March very little was done to purpoſe, from the conſtant ſucceſſion of heavy rains and ſevere froſt. Many fields of oats lay, for two or three weeks, in a very bad ſituation, half-harrowed. For two weeks paſt, however, we have had fine dry weather for field operations, though bitterly cold and ungenial; by which the oat ſeed has been finiſhed in much better condition than was expected. Wheat in many places has ſuffered greatly; and nowhere can it be ſaid to have a fine appearance. The young graſſes, not originally promiſing, are ſtill in a worſe ſtate, and probably too far gone to recover fully, however favourable the weather may prove hereafter. As to the paſtures, their appearance is truly miſerable, and have now nothing of the fine verdure they had about the beginning of the year. This total want of vegetation, at ſuch an advanced period of the ſeaſon, muſt really be a ſerious buſineſs to thoſe who are ſhort of fodder, with a full ſtock of beſtial on hand, the proſpect of relief from graſs being at preſent ſo diſtant.

'Our market for grain has been ſteadily low during the laſt quarter; it is now rather looking up, but very little has lately been preſented. A farther riſe is expected; but this now cannot be of much benefit to the farmers, as the ſtack-yards, except in the article of barley, are very thin. Wheat, about 27s.; Barley, 17s.; ſome (remarkably fine, weighing nearly twenty ſtone), 20s.; Oats, 15s. to 18s.; Beans, 17s. Our butcher market has kept uniformly high; the price of beef, in retail, is from 9d. to 9½d., and mutton 10d. to 10½d. *per* lib.

tron; and I ſuppoſe would have been ſtill higher, had not the demand been leſs than uſual, which, I am informed, has been fully a third below what it has been for two years paſt. Little of the profits of this high price, however, I believe, has reached the pockets of the feeder; it muſt therefore have gone to the breeder or the butcher.

'In my laſt letter, when noticing the rate of wages in this neighbourhood, I omitted to ſtate that of farm ſervants, which with us, I imagine, is higher than in moſt places in Scotland. Eight guineas in the half year is the moſt general wage now given here to a ploughman; ſome principal hands ten guineas, with bed, board, and waſhing. If the ſervant is a married man, or does not live in the houſe, he is allowed, as board wages, two pecks of oat-meal, with a ſhilling (for what they call kitchen) per week. He has his coals driven, and often a little ground is allowed him for a few potatoes. Upon the whole, therefore, a ploughman cannot be eſtimated under thirty pounds *per annum*.

'I noticed in my laſt letter the property act, particularly in its application to the tenantry, and can now aſſure you, from the beſt authority, that the opinion I then gave, with ſome doubt, reſpecting the deduction of one eighth, as therein ſtated, was perfectly correct. The abſolute injuſtice of aſſuming a tenant's rent as the criterion by which to judge of his income or profits, and his conſequent ability to pay the tax, one would think, could only require to be mentioned, in order to have it amended; not to point out the glaring partiality of placing this claſs on a different footing from every other in the community in regard to this tax. As it will no doubt undergo a reviſion this Seſſion, we may hope to ſee it amended in this particular, as well as in many others.

'The importance of the tenure by leaſe to the intereſts of agriculture, has been ſo ably diſcuſſed in many of your pages, that the ſubject ſeems in a manner exhauſted, as far, at leaſt, as reaſoning can well go; but as, with ſome people, a ſingle fact will go farther towards conviction than a thouſand arguments, I ſend you the following, which has occurred in our neighbourhood, as it may ſerve as a warning to others not to 'go and do likewiſe.' The valuable barony of Kinniel, much of it fine carſe ſoil, belonging to the Duke of Hamilton, is parcelled out into ſmall farms, and occupied by a numerous tenantry, who conceived themſelves ſecured in a nineteen year's leaſe of their poſſeſſions, of which ſix or ſeven years are yet generally to run. On entering to their farms, inſtead of getting a regular document, or properly extended leaſe, they received only ſome ſort of letter from the factor of the late Duke; under which, however, as they had ſat quietly ten or twelve years, they naturally concluded that they would continue undiſturbed to the end of the nineteen. All at once, however, they have been made to underſtand, that this letter or promiſe (for I believe it is not preciſely of the ſame nature with them all), will be of no validity in our courts of law, and that they muſt expect a warning

warning of removal againſt next term. In this dilemma, they will probably have only the alternative of ſubmitting to a riſe of rent, (although their poſſeſſions were let at their full value when the leaſe, if it may be ſo called, commenced), or run the riſk of the glorious uncertainty of the law, in a ſuit before our Scots court, in defending their rights. The caſe of ſome of them will be peculiarly hard. One, for inſtance, who got his farm a few years ago, at that time by far the worſt and moſt worthleſs part of the barony, and who has, by the moſt ſpirited exertions, and conſiderable expence in fallowings, dung, and laying on uncommonly heavy dreſſings of ſoapboilers aſhes, which he had the means of procuring, brought it, for the laſt two years, to carry as good crops of grain and graſs as the moſt favoured ſpot in the barony. Such a caſe needs no comment; the tale requires only to be told, to intereſt every one capable of judging of ſuch matters, and whoſe heart is not ſteeled againſt the common feelings of humanity.'

Banffshire Quarterly Report.

THE property act remains unexecuted in this county, the commiſſioners not having held any meeting to that effect; of courſe, very little light is thrown upon the ſubject, which, to be ſure, is a very intricate one.

Yellow turnips were introduced into this diſtrict ſome time ago as ſpring food for cattle or ſheep; but as they are not mentioned in any of the ſouthern reports, it may be preſumed they are ſeldom uſed. Their utility is, however, ſo great, that a conſiderable quantity will be cultivated here next ſeaſon, as they ſtand the winter almoſt as well as the Swediſh, and grow much larger. They are likewiſe very fine for the pot; and the ſervants in this country prefer them to cabbage, or any other kind of vegetable.

The following is the ſtate of huſbandry, &c. for the current quarter. It was fortunate for this diſtrict that the autumn admitted farm labour to be ſo far advanced, otherwiſe it muſt have been very unſeaſonably performed, as little elſe could be done through the winter, but driving dung to be mixed in the field, a work that facilitates after operations; but the breaking up of the roads even made that difficult. The intenſe froſts during moſt of laſt month have proved very injurious to the wheat and young graſſes, and there is really leſs verdure at preſent than was in the beginning of February. This is the more to be regretted, as turnips are moſtly done, a great proportion of them being rotted, and fodder ſcarce.

The oat ſeed commenced about the end of laſt month, but was interrupted by bad weather, till a few days ago, when the land having become tolerably dry, it now goes on rapidly. The froſt ſtill continues ſevere during the night, with cold ſcorching winds through the day; ſo that vegetation ſeems to be at a ſtand.

Fat cattle have not come up to the farmer's expectations this ſeaſon, which, it is believed, is owing in part to a number of half-fed beaſts being hurried to market, and alſo, in ſome meaſure, to an unuſual

quantity of ſwine having been reared, and now ſlaughtered. Beef, very little advanced ſince laſt report, 8s. and 8s. 6d. per ſtone, ſinking offal; pork, 4s. and 4s. 6d.; hardly any mutton at market.

Very few wintering cattle are yet ſold; but thoſe in good condition are like to pay much better than ſtall-fed ones. Many of our cattle-dealers have failed, and the trade, of courſe, is now in the hands of two or three, who, no doubt, will avail themſelves of their ſituation. It is hoped, however, that dealers from a diſtance will be induced to come northward, as they will unqueſtionably find their account in doing ſo.

Few potato oats had found their way here, till this ſeaſon that a good many trials are making, for the moſt part, on lands deſigned for barley, which, by being a drug, is moſtly abandoned by the farmers.—Very little alteration in the prices of grain ſince laſt report. Oatmeal may be noted at 18s., but is not in demand. Hay has not ſold above 1s. per ſtone of 20 lib. Dutch, though I believe it may be from 15d. to 18d. in the upper diſtricts of the county, where all kinds of provender is immenſely ſcarce, and, of courſe, cattle at ſtarving. No graſs parks are yet ſet with us; nor is it thought they can maintain their former value, unleſs neceſſity oblige the farmers to have recourſe to them, in order to keep their ſtock from ſtarving.

Sheep markets have not yet commenced, nor is it well known how they will go; but ſtock, in general, is very lean. Seed potatoes rather ſcarce, and ſell at 14d. and 15d. per peck.——*April* 14.

Roſs-ſhire Quarterly Report.

We had a mild, open winter, and the ſpring ſet well in; but ſince the middle of March, we have had as bad weather as ever remembered at this ſeaſon of the year. The ſnow has been ſo ſevere on the hilly ground, that ſheep have in many places ſuffered for want of food. The alternate froſt, ſleet and rain, have kept the oat ſeed far behind in the low parts of the county. In high ſituations, little or none are yet ſown. The ſtack-yards are in general entirely exhauſted; and it is feared, if the preſent cold weather continue much longer, that many of the cattle will periſh.

The crops here turned out below an average. Oats for ſeed are riſing in price daily. Potato oats ſell at 30s. per five firlots, and common oats at 26s. Oat-meal continues at 24s. to 26s. per nine ſtones; but is getting more in demand, and expected to be higher ſoon. Barley, of which we have had large importations from the ſouth, has fallen in price; it is now ſelling at 22s. and 23s. per boll, and ſales very dull. Wheat, early in the ſeaſon, ſold at 27s. to 29s. per boll; but for ſome months paſt there has been no demand for that article. Potatoes are ſcarce and dear, 24s. per boll, and expected to be higher: our potato meaſure is equal to two Edinburgh bolls. Beef and mutton from 7d. to 8d. per lib. Amſterdam weight; Pork 4d.

Some drovers from the ſouth have lately made their appearance, but the prices of lean ſtock cannot be noticed, as few or no ſales have yet been made.

We

We feel a ſcarcity of good hands for agricultural purpoſes, many of them having been ballotted for the militia and army of reſerve; and thoſe who remain are for the moſt part volunteers, and taken up at leaſt one, and often two days in the week at drill. Wages for farm ſervants have advanced conſiderably within theſe few years. From 6l. to 8l. a year, ſix bolls of meal, about the ſixth of an acre of ground planted with potatoes, a houſe, and peats for firing, or 12s. in lieu of the latter, are given; but, in many inſtances, the money wages is much lower, probably only 3l. or 4l. a year, with permiſſion to malt a little barley *privately*; and this is conſidered of ſuch value, that maſters who give this indulgence have generally the choice of the beſt hands.

It may not be improper here to obſerve, that ſince the high duties were laid upon the licenſed ſtills, a great change, for the worſe, has taken place in this diſtrict. Illegal ſtills were then comparatively few; but ſince that period, the illicit trade has been carried on to an extent never before known, and to the almoſt total excluſion of the fair trader. ——*April* 14.

Letter from a Farmer near Kelſo, April 16.

'For fourteen days paſt, we have experienced as bad weather for ſeed-work as can poſſibly happen, and from the falls of ſnow and rain, the ground has been kept conſtantly wet, and in an unfit ſtate for the operations of the ſeaſon. The cold winds have deſtroyed all vegetation, and as our turnips are nearly gone, the flocks will ſoon be in a diſtreſſed ſtate, even in the moſt favoured ſituations. Cattle are eating up the ſtraw very faſt; conſequently the ſtack-yards are become much thinner than uſual.

'The grain market is advancing ſomething in price, and cattle and ſheep have of late ſold tolerably well. Graſs parks have let, and are daily letting, at higher rents than given laſt ſeaſon, which is owing to the want of turnips and other food for our ſheep. Potatoes are alſo riſing in value.

'The property act ſeems imperfectly underſtood; nor is this to be wondered at, ſeeing the confuſion of its arrangement. We have been called to return the value of our farms, if poſſeſſed above ſeven years; but no mention is made whether the rent to be aſſeſſed is for 1802 or 1803; though, to be ſure, this may be a material object to individuals placed under certain circumſtances.'

Selkirk Quarterly Report.

NEARLY the whole of March and the current month has given moſt unfavourable weather, being generally froſty, and, at times, accompanied with heavy ſhowers of ſnow. This rendered the lands ſo wet when the froſt retreated, that it was impracticable to proceed with ſeed-work at the uſual time. Sowing, however, was partially begun in the firſt week of April; but little was done till the ſecond week, and even then the ground was by no means in proper condition. The ſeaſon

being far advanced, induced many people to commit the precious ſeed to an ill prepared bed; and the like cauſe has occaſioned more early oats to be ſown than cuſtomary.

The weather has been equally unfavourable to vegetation as to ſeed-work, and the hill paſtures are very bad indeed. Sheep being previouſly in good order, it is to be hoped that there will be little loſs ſuſtained from the preſent ſcarcity of food, provided genial weather ſoon arrives. They have been ſeen conſiderably leaner, while no bad conſequences followed; but if ſuch weather as we preſently experience continues long, ſerious apprehenſions may be entertained. The loſs from diſeaſes has hitherto been very moderate, though the reduction in value will cut deep into the profits of ſtoremaſters. Great ewes have fallen about 25 *per cent.* below laſt year's prices; but the fall ſeems to be as much occaſioned by the extreme anxiety of the feeder not to give too much, as from an overſtocked market, there being a conſiderable demand at current prices.

The Farmer's Magazine being ſo widely circulated, renders it an excellent channel for conveying agricultural information in an unbroken chain through every quarter of the iſland. The propoſal, in laſt Number, of preſenting correct accounts of the value of labour in every diſtrict, has therefore given general ſatisfaction, and a ſtatement from this county is of courſe neceſſary. Here, ploughmen, with board, get 14l. *per annum.*; and when they maintain themſelves, ſix bolls of oat meal, graſs and fodder for a cow, land which will plant three pecks of potatoes, and 9l. in money are given. Shepherds have the paſturage of forty-five ſheep ſmeared, and ten to diſpoſe of at Martinmas, which returns them nearly the ſame money as paid to the ploughmen. Wrights receive per week 8s. with, and 12s. without board. Maſons nearly the ſame; but ſome variations have lately taken place in the two laſt articles, which, with the wages of labourers, ſhall be noticed at another time.——*April* 17.

Upper Ward of Lanark Report.

For three months back, the weather has been very variable. Some farmers began their oat-ſeed about the 1ſt of March; but after going on for a few days, were ſtopped by ſevere froſt, accompanied by heavy ſhowers of ſnow. Seed-work was therefore interrupted for more than three weeks, but is now getting forward, and the ground is in excellent ſtate.

Very little vegetation has hitherto appeared; but fodder being tolerably plentiful, it is to be hoped that a temporary want of graſs will not be of material inconvenience. Graſs parks have let much at the ſame rates as thoſe of laſt year.

Few lean cattle are yet ſold. Great ewes are much reduced in price, being about ſeven ſhillings per head lower than laſt ſeaſon.——*April* 17.

Aberdeenſhire

Aberdeenſhire Quarterly Report.

FIELD-WORK of every kind was far advanced in the autumn, and did not meet with the uſual obſtructions, through the winter months, from ſtorms, or long continued froſts; of courſe, ploughing, in general, was finiſhed early. Since the beginning of March, till about a week ago, ſeed-work was much impeded by heavy falls of ſnow and rain, with froſt conſtantly at night. As a greater ſtrength could be laid to harrowing than is common when the ploughing is farther back, the good days lately ſent have been ſo well employed, that moſt of the oats, and all the peas, are ſown in pretty good order. The ſowing of bear is not yet begun; indeed, with many, this will not be a tedious operation, as, under preſent circumſtances, a crop of this grain will not indemnify the growers. The prices of grain have fallen during the winter; and it was with difficulty that ſales were made. Bear, 15s. to 18s. per boll of 136 Stirling jugs, equal to 6¼ Winchester buſhels; Oat-meal, 16s. to 17s.; Bear-meal, 10s. to 11s. per boll of 128 lib. Amſterdam; very few oats or peas bought for the ſupply of other diſtricts. Fat cattle have maintained their value, being from 8s. 6d. to 10s. 6d. per ſtone, ſink; retail prices, 6d. to 8d. per lib. The markets for lean cattle and ſheep are not yet commenced, nor can they determine prices much till the graſs ſeaſon come on. The ſtack-yards, with many, are entirely finiſhed; and few people will have grain over the ſummer.

The price of every kind of work has increaſed here as high as in any county of the kingdom. Indeed, from the very extenſive works carrying on in the city of Aberdeen and its vicinity, as alſo from the different lines of turnpike road now making through the county, a great riſe in the price of labour might have been expected. But add to this, the immenſe drain of men for the Navy, the Militia, the Army of Reſerve, independent of the companies of Volunteers, and it will not excite ſurpriſe, that ſuch numbers of uſeful hands taken from their ordinary avocations, ſhould very much increaſe the value of thoſe that remain. Even high duties, and the increaſed value of every article of wearing apparel, muſt render higher wages neceſſary for the comfort of labouring people than thoſe formerly paid them. It is obvious, however, that theſe things muſt depreſs agriculture; muſt prevent many uſeful improvements from being undertaken, and bear hard on farming capital. Such evils muſt, however, be borne with patience. Whilſt the Almighty permits the tyrant of a neighbouring country to ſcourge the human race, all muſt feel the preſſure. Holding the plough in one hand to provide ſubſiſtence, and in the other a gun, a pike, or ſpear, to be ready to meet the foe, we muſt acquit ourſelves like men, till Providence clear up the clouded ſky, and remove tyranny and threatening from our borders, leaving us in the full poſſeſſion of our original rights, liberties and immunities. Then will things find their natural level; income will exceed expenditure; and a ſurplus be left for new improvements.

With

With regard to the property tax, the buſineſs is not ſo far diſcuſſed as to enable me to ſay how it will be executed in this diſtrict. The commiſſioners have ſent papers to be filled up; ſome are returned, and ſome are not. They are only calling them in; and I have heard of no inſtance as yet of freſh valuations having been made. Indeed, if ſchool-maſters are ſent as valuators or aſſiſtants, as authoriſed by the bill, it would be a moſt ludicrous procedure. You have ſtigmatized many parts of the bill; but there is none more ridiculous than the clauſe here alluded to.——*April* 18.

Letter from Inverneſs, April 20th.

'We have hitherto had the coldeſt ſpring ever remembered; during the laſt month ploughing was frequently ſtopped, owing to the ſeverity of the froſt, and on the morning of the 6th inſtant, we had a heavy fall of ſnow, and ſtill have frequent ſhowers of it, with pretty ſmart froſts. From all theſe cauſes, vegetation is exceedingly backward, while provender of all kinds is very ſcarce. The ſtraw in moſt places is all conſumed, and hay to be got only in few. It is difficult to ſay how the ſpring work is to be executed in many Highland diſtricts, as they are already giving the oats to their cattle that were intended for ſeed, otherwiſe they would ſtarve. In the low diſtrict here, oat ſeed is over, and ſeveral fields are already brairded. We are now engaged in ſowing barley, but are impeded much by froſt.

'Owing to extenſive importations from the ſouthern counties, the price of grain has been kept moderate. Barley 22s. to 24s., and oats 24s. and 25s.; the laſt per boll of 5 firlots, which is a trifle leſs than 8 Wincheſter buſhels. Beef and mutton are ſcarce; prices 7d. to 9d. per lib. Hay 2s. per ſtone tron weight. It is now aſcertained that the crop of this county in 1803 was not equal to four months conſumption of its inhabitants.

'A great many working people are now employed at the Caledonian canal; and the baſons here and at Fort-William are already begun. The cattle drovers are ranging the county; but offer prices very much below what was formerly given.'

Berwickſhire Quarterly Report.

The ſame variable weather which marked the progreſs of the winter months, has continued to retard the operations of agriculture during this quarter. February and March preſented only twenty-four days free of rain, ſnow or ſleet, and ſeldom three days fair in ſucceſſion; ſo that very little ſpring wheat has been got ſown, as it could only be attempted upon the drieſt ſoils, and at chance intervals. Winter wheat experienced a ſevere check from the froſts in February; but has now a promiſing appearance, though the weather all along has continued unſeaſonably cold.

Oats ſowing did not become general till the firſt week of April; peas and beans ſtill later; while the frequent recurrence of rain and ſnow has cauſed

cauſed many fields to be harrowed rather wet. Barley ſeed is begun; but a proportion of peas and oats ſtill remains to be ſown.

This unfavourable ſeaſon has occaſioned a conſiderable loſs of both ewes and lambs; and, from the backwardneſs of vegetation, the lambs are but poorly ſupplied with milk. Young clovers are thin and weak, and turnip (from being a good deal ſpoilt) was in many caſes exhauſted by the firſt of April. Much benefit has been derived from ruta baga, which, as it preſents the only reſource that can be depended on at this ſeaſon, certainly merits a more general cultivation.

There has been no demand as yet for ſtock of any kind to the Engliſh paſtures. Fat markets, which continued pretty ſteady through the winter, have been rather glutted ſince the beginning of this month, from the ſcarcity of keep. This circumſtance has alſo tended to enhance the value of graſs encloſures, which have been letting from 25 to 50 per cent. higher than laſt year.

Our corn markets have all along been kept rather full for the demand; a circumſtance which has probably ariſen from the neceſſity of thraſhing a regular ſupply of ſtraw for the wintering ſtock; as the ſtraw, from its ſhortneſs, has this ſeaſon yielded more grain than uſual to its bulk. Prices kept gradually declining till the approach of ſeed time, ſince which they have been upon the advance. The ſtack-yards already begin to wear a vacant appearance, and will in moſt caſes be quite empty by the term of Whitſunday. Prices at preſent are—Wheat from 33s. to 35s.; Barley 15s. to 18s.; Common Oats 15s. to 17s.; Potato Oats for ſeed, 17s. to 19s.; Peas 21s. to 22s.; Early do. for ſeed, 24s. to 25s., per boll of ſix buſhels. Good Beef is retailing at 8d., and Mutton at 7½d. per lib. Dutch.

Maſons wages are at preſent from 12s. to 14s.; Carpenters from 10s. to 13s.; and Labourers from 9s. to 10s. per week; but from the extravagant rates of laſt ſummer, maſons ſeem to expect a riſe of wages about Whitſunday.——*April 20th.*

Tweeddale Quarterly Report.

The whole turnip crop of this diſtrict was conſumed without loſs, and the ſtock ſheep continued in good condition till the firſt of March. The badneſs of the weather ſince that time has however been much againſt them, and occaſions great apprehenſion of the lambing ſeaſon which is now commencing. At this time (April 19th) there is ſcarce a ſprig of graſs on our loweſt grounds, and the hill paſtures are as dead as turf; ſo that it is hardly poſſible the ewes can yield milk ſufficient for ſupporting their lambs, unleſs a favourable change ſoon takes place. A conſiderable depreſſion of price has occurred in this article, both at ſhews and private ſales: the graziers having ſuffered much laſt year, proceeded with caution in making purchaſes. Butcher meat is from 7d. to 8d.; but as the ſelling price of lean ſtock is not proportionable, there muſt be large profits ſomewhere in the ſtages betwixt the feeder and conſumer.

It

It was the 6th April before ſeed work commenced, the weather at that time turning middling dry, though extremely cold. As all were anxiouſly waiting an opportunity, the oats and peas were puſhed into the ground in fewer days than ever known; and now the fields which carried turnips are preparing for barley, though it muſt be obſerved that many ſuch are already ſown with oats, there being no demand for barley ſince the malt-tax was raiſed. The reſult of the inveſtigation in Parliament is anxiouſly looked for; and if it be of a nature as to allow a return to our former ſyſtem, the welfare and proſperity of this diſtrict will be conſiderably increaſed.

Our ſtock of fodder is much exhauſted; and as there is no appearance of graſs, it is dreaded that a ſcarcity of that article will be ſhortly felt. The young graſſes are moſtly annihilated; and upon many fields which looked tolerably well after harveſt, few plants can now be recognized. The grain markets have been looking up of late. Good horſes are in demand, and at high prices.——*April 19th.*

Letter from Glaſgow, April 23.

Throughout the month of February, we had the fineſt weather ever remembered at that ſeaſon of the year; in conſequence our farmers began the ſowing of their beans and oats, and a few fields were finiſhed in excellent order. Since the 1ſt of March, however, till about the 8th of the preſent month, we have had nothing but ſevere ſtorms of froſt, ſnow, and rain alternately, which ſtopped all work. From that time the weather has been dry, although cold, and the oat-ſeed is nearly concluded. We ſhould think the ſeed has not been got into the ground ſo favourably as could have been wiſhed, becauſe the ſeaſon being far gone, many of our farmers began to ſow when the ground was rather wet.

The winter ſown wheat looks well, conſidering the ſevere ſtorms it has encountered. Should the preſent cold, barren weather, however, continue much longer, it will be materially injured. Our grain market has been very ſteady for ſome time back. Wheat and oats have indeed advanced a little; but no alteration has taken place in any other kind of grain. We have ſtill a large ſtock of old Canada wheat on hand, which, with wheat, the growth of this neighbourhood, and what is daily coming in from the Frith of Forth, will be ſufficient to ſerve us till a new importation: this from Canada, in particular, is expected to be pretty conſiderable, the crop there (as is reported) having been very abundant, and the quality fine. At preſent there are but few oats at market. Our ſupplies of late have been from Northumberland and the ſouth of Scotland. We have had little or no ſale for Scotch barley this ſeaſon; what our brewers have bought has been chiefly from England: it would appear the conſumption of this grain has been much reduced of late.

State

State of Glaſgow Markets, April 23.

Dantzic wheat	30s. to 32s.	Linlithgow meaſure.
Britiſh do. -	26s. — 30s.	do. do.
Canada do. -	23s. — 28s.	per boll of 240 lib. Engliſh.
Iriſh do. -	24s. — 25s.	
Iriſh oats - -	19s. 6d. — 21s.	do. 264 do.
South country oats	16s. — 17s.	do. Renfrewſhire meaſure.
Do. potato oats	19s. — 20s.	
Northumberland oats	19s. — 19s. 6d.	do. Stirling.
Do. potato oats	21s. — 23s.	
Engliſh beans and peas	21s. — 22s.	do. do.
Scotch do. -	19s. — 20s.	
Engliſh barley -	20s. — 21s.	do. do.
Scotch do. -	15s. — 16s.	
Oat-meal -	19s. — 20s.	per boll of 140 lib. Engliſh.
Do. retail price -	15d. — 16d.	per peck.
Peas-meal -	16s.	per boll of 140 lib. Engliſh.
Do. retail price -	1s. 1d.	per peck.

Mid-Lothian Quarterly Report.

THE month of February, although variable, continued mild; and ſome people were induced not only to drill beans, but alſo to ſow oats; and where the fields were got finiſhed before the ſucceeding adverſe weather commenced, the young plants have come up apparently without injury. But on the 15th of March, a ſevere blaſt from the eaſt took place, which continued inceſſantly for three days, and rendered the country wetter than it had been ſince the memorable 1799. Froſt, hail, ſnow, and rain have ſucceeded each other ſo frequently, that there has been great difficulty in getting the ſeed depoſited in any thing like tolerable order, and in ſome places it is not yet entirely over.

Vegetation has met with a ſevere check, which is the almoſt certain conſequent of a mild winter, and premature growth. The wheat, however, was forward, and has hitherto withſtood the effects of ſuch weather better than might be expected. Little or no barley is yet ſown any where.

It was ſtated in laſt report, that thoſe would do well who brought as little grain to market (under the then circumſtances) as poſſible; and events already begin to evince the propriety of the remark. Old grain is in demand every ſeaſon; but few years can boaſt of ſuch quality as the wheat of laſt year's growth. Hence, it is evident, that before next year's wheat can be fit for uſe, old wheat muſt become an article of conſiderable value. Indeed, it may be laid down as a fixed rule, that when the grain of any particular year is eminent in quality, it will ultimately bring its correſpondent price.

The ſtack-yards are much leſs than uſual—ſome of them near empty; and when it is conſidered that the corn trade has been *unhinged* for ſome time

time paſt, perhaps it may be admitted that there is little more than one half of the uſual quantity of grain within the county, the town and port of Leith included.

The butcher markets have hitherto been ſupplied beyond expectation; but it is evident, that owing to the lateneſs of the ſeaſon, many half-fed animals that would have been finiſhed off with graſs, have been brought to the ſhambles prematurely, which, in the long-run, may occaſion a want. It is true, indeed, that the diſtillery cattle will fill up a gap in the article of beef; but it is apprehended that mutton muſt very ſoon become ſcarce.

Ewes with lamb have fallen from 25 to 30 *per cent.* below the extravagant prices of laſt year. Beef ſells at from 9s. to 10s. per ſtone, ſink; the quartern loaf 8d., and oat-meal at 16d. per peck of 8 lib., 17½ oz. to the lib.——*April* 23.

Eaſt-Lothian Quarterly Report.

Since laſt report, the weather has been remarkably unſteady, of courſe hoſtile to the work of the ſeaſon. Some patches of wheat were ſown in February, a few oats upon dry clover leas in March; but the great bulk of ſpring ſeed was put into the ground during the two firſt weeks of April; much when the land was not in good caſe. Oat land, on the whole, harrowed better than could have been expected; but to drill beans, was a difficult buſineſs. As the weather continues wet and unſettled, there is cauſe to dread that much of this laſt mentioned grain will periſh, or vegetate irregularly.

A greater ſcarcity of young graſſes has not been obſerved ſince the firſt introduction of clovers: even the plants which remain, are weak and ill-coloured, promiſing but a poor return to the farmer. Many tares will be ſown, as horſe-feed, to make up for the deficiency of clovers; and increaſed rents have been given for old paſtures, by thoſe who had ſtock on hand. Rural matters do not at preſent afford a comfortable proſpect; but it is unneceſſary, in this ſtage, to offer opinions upon the conſequences, ſeeing that a return of genial weather might effectually refute them.

The grain market has, for three weeks paſt, advanced conſiderably: even the barley purchaſers have diſplayed an alertneſs not witneſſed for theſe fifteen months. Good wheat per boll, ſomething above four Winchester buſhels, (ſay 3 *per cent.*), ſells from 29s. to 31s. 6d., which is higher than the beſt of Mark-Lane. Oats have alſo been in conſiderable demand, eſpecially thoſe of the potato variety, many of which, from the lateneſs of the ſeaſon, have been uſed for ſeed. The butcher market has not varied much, though the quantity of fat ſtock in this diſtrict, except with diſtillers, is very trifling.

The property-tax is generally aſſeſſed; but as accounts are not yet tranſmitted, few people know upon what principles the aſſeſſments are made. The year 1802 has been taken as the baſis of aſſeſſing landed property; and when leaſes had been poſſeſſed for more than ſeven years, freſh valuations have been made. Theſe valuations have not, however, been

been made with ſeverity, while the commiſſioners and thoſe below them beſtowed much attention upon the execution, ſo far as the meaning of the act could be comprehended. Under theſe circumſtances, it excites ſurpriſe that a complete revolution in the adminiſtrative body has this day been made at the county meeting, the leading and acting commiſſioners, appointed laſt year, being left out in the nomination, and others choſen in their place, who, with one or two exceptions, belong to that body generally recogniſed under the name of *the Family compact*. It is not for neglect of duty, either in the commiſſioners or officers below them, that this change has been made, but merely becauſe they *preſumed* to exerciſe the power, committed to them by the act, of chooſing their own collector. In making this appointment, they paſſed by the collector of the land-tax, and made choice of a young gentleman of diſtinguiſhed abilities, one who was intimately acquainted with official details, and who, in fact, had diſcharged the duties of the collector's office for many years, with credit to himſelf and ſatisfaction to the public. At any rate, the difficulties attendant upon the execution of the act being certainly now much removed, it may be conſidered as refined policy to give the heat and burden of the day to one ſet of men, and to ſweep them off when the labours of office may be performed with eaſe to thoſe concerned. One half of the trouble will not afterwards be called for, as was neceſſary at the outſet; and the ſubject being better underſtood, little more than the common routine of buſineſs will be required to carry it into execution.——*April* 30.

FIARS OF GRAIN.—CROP 1803.

Eaſt-Lothian.

	First.	Second.	Third.
Wheat	27s. 5½d.	25s. 11½d.	24s. 7½d.
Barley	19s. 2½d.	17s. 10d.	16s. 6½d.
Oats	18s. 6d.	16s. 11½d.	15s. 7d.
Peas	17s. 10d.	16s. 10d.	15s. 10½d.

All per boll of Linlithgow ſtandard meaſure.

Mid-Lothian.

Beſt wheat	26s. 3d.
Second do.	24s. 9d.
Beſt Barley	18s. 6d.
Second do.	17s. 0d.
Third do.	15s. 0d.
Beſt oats	17s. 6d.
Second do.	15s. 6d.
Beſt oatmeal	18s. 0d.
Peas and beans	17s. 0d.

Berwickſhire.

Wheat	34s. 0d.
Merſe barley	16s. 0d.
Lammetmuir do.	15s. 0d.
Merſe oats	16s. 0d.
Lammermuir do.	15s. 0d.
Rough bear, or big	15s. 0d.
Peas	20s. 0d.

All per boll of ſix buſhels.

Oatmeal 16s. 6d.

per boll of eight ſtone Dutch.

Aberdenſhire.

Farm meal, 8 ſtone	16s. 0d.
Farm or market bear, without fodder	16s. 0d.
White meal, 9 ſtone	18s. 2d.

Great oats, with fodder	27s. 6d.
Ditto, without fodder	16s. 0d.
Brocked oats, with fodder	25s. 0d.
Ditto, without fodder	14s. 0d.
Bear, with fodder	25s. 6d.
Ware bear, with fodder	23s. 0d.
Ditto, without fodder	12s. 6d.
Small oats, with fodder	20s. 0d.
Ditto, without fodder	12s. 6d.
Market malt	36s. 0d.
Peas	16s. 0d.
Wheat	25s. 0d.
Rye	15s. 0d.

Kincardineſhire.

Oatmeal per boll	16s. 6d.
White oats, with fodder, per do.	27s. 0d.
Ditto, without fodder	17s. 0d.
Bear, with fodder	20s. 0d.
Ditto, without fodder	15s. 0d.
Peas, with fodder	25s. 0d.
Ditto, without fodder	15s. 0d.
Wheat	24s. 0d.

ENGLAND.

Yorkſhire Quarterly Report.

The preſent ſpring ſowing of grain has been retarded by the diſagreeable ſtate of the weather for ſome weeks paſt; yet ſomething is done on ſoils that were in any degree of previous preparation, or the moſt favoured by nature. Barley has been ſown on many of the turnip fallows; Beans, generally, on all ſoils, except in thoſe inſtances where, on ſtrong clay ſoils, the eſſential preparation of winter ploughing has been neglected. On ſuch as were fortunately laid out in drills, in time to receive the benefit of the winter's froſt, even on the wetteſt and ſtrongeſt ſoils, the beans were put in, and harrowed in excellent order, ſome weeks ſince; and they are now ſprouting through the ſurface, as faſt as the preſent unpleaſant weather will allow. By the way, this uſeful practice is too much overlooked in general: '*Sapienti verbum ſat.*' Very few oats are yet ſown; flax generally, and in good order. On the whole, the preſent is an extremely backward ſeaſon. Leſs appearance of graſs, clovers, &c. than a month ſince: yet, notwithſtanding the ſevere froſts, frequent ſnows, and deluges of rain, the wheats, in general, are tolerably promiſing. Though the end of laſt ſummer, and the whole of the autumn, were unuſually dry, the clovers and other graſs ſeeds have planted moderately, where ſown with crop: thoſe ſown without crop, about midſummer, on fallows well prepared, totally failed, and were turned up again for wheat, &c.

The

The turnips have holden out through the winter better than was expected; but are now all conſumed, or nearly ſo. Hay has been at 7l. per ton; was lately declining from that price, till the preſent bleak eaſt winds commenced, which, together with the backward ſtate of herbage, will conſiderably favour its advance. All circumſtances conſidered, the lambs already dropped are as numerous and promiſing as could reaſonably be expected; perhaps, in number, there are more than an average.

Of courſe, nothing is done among the ſpring and ſummer fallows. The beſt Wheat is about 7s. 9d.; Barley, 3s. 6d.; Oats, 3s.; Beans, 5s.; and Potatoes, 4s. per buſhel of Wincheſter. The price of the laſt article confirms the autumn Report of the produce, where it is ſtated as a half crop. It may not be improper to obſerve here, that, under many very unfavourable circumſtances attending the preſent criſis, the above are prices not very diſcouraging. They are, however, ſufficiently ſo, to warn the induſtrious and managing cultivator to raiſe his grain produce at as little coſt of labour of men and *horſes* as he can poſſibly contrive to do by the full ſtretch of his ingenuity and care.

Fat Cattle and Sheep ſell tolerably well; Beef and Mutton, 7d. per lib.; Veal, 8d.; Butter, 1s. 3d. Lean cattle are conſiderably lower than laſt year. The beſt kind of horſes are ſtill very dear; yet reported at the late fair at Doncaſter, 5. April, to be full 20 *per cent.* lower than laſt year. The wages of farm and other labourers, and of ſervants in general, are extravagantly high.

The tax upon property has not been collected in this diſtrict as yet, though daily expected to be demanded; of courſe, no great complaint is yet heard. It is expected to raiſe as much nearly as the late income tax; yet, no doubt, great advantage will be taken of exemptions. The aſſeſſors have had much trouble and anxiety about the mode of rating the tax, in various caſes; ſuch as occupancy by proprietors; tenants refuſing to declare the real rent, &c. &c. It is preſumed, that the real rack rent by the year has moſtly been obtained: when that could not be done from partial circumſtances of ſome pariſhes or townſhips, recourſe was had to the poors' rate, which was proportioned to what was deemed a ratio tolerably ſatisfactory to the commiſſioners and others concerned, as far as can at preſent be known. The value of laſt year's rent was aſſumed as the taxable ratio of the rent by the year; and in ſome caſes recourſe was had to actual view and valuation. This was where the poors' rate was raiſed irregularly or unequally: *ex. gr.* a nobleman's woods, &c. &c. have been nearly free from the poors' and road taxes, while his valuable collieries have deſtroyed the roads. Theſe are genuine objects of revaluation.——*April* 12.

Letter from a Farmer in Wales, April 14th.

'We have experienced a long winter, though, on the whole, not a ſevere one. What froſts we had were moderate, with but little ſnow; and although we had much wet weather, we had but few heavy rains. Our ſpring is late, there being but little appearance of graſs at preſent,

and fodder is getting ſhort with many. At the ſame time, there is a ſufficient ſtock of hay to be bought at a moderate price, it being ſold at from 2l. 10s. to 4l. per ton, according to quality and ſituation.

'The laſt week of February and the firſt week of March were dry and favourable, during which period moſt of the peas, beans and oats, were ſown; ſince that time we had a month of wetneſs, when but little work was done. The weather is now very fine, and we are buſy with the barley ſeed. I believe there will be leſs of that grain ſown in this part than uſual, the low price being againſt it. Unluckily for the work of this neighbourhood, they have called out the volunteers, which conſiſt chiefly of farmers ſons and ſervants; and many farmers are at a loſs to go on with their labour. Moſt of the wheat looks well, as far as I have ſeen. There was but little ſpring wheat ſown with us this year.

'Our markets are rather worſe than otherways, particularly for wheat, which is at preſent a drug; and none but very prime ſamples will ſell, prices from 14s. to 16s. for 168 pounds. Barley and oats have remained ſtationary for ſeveral months; but they have gone off; and the rick-yards ſeem almoſt clear, except for wheat. Cattle continued on hand through the winter; but they now begin to move, and at our late fairs have ſold better than was expected, though at lower prices than for the laſt two years: it is the general opinion they will advance as the graſs comes. Ewes and lambs ſell well. I ſee little difference in the price of them now and laſt year. Pigs ſtill keep very low; but there is not ſo many bred lately as has been. A great part of the barley has been conſumed by pigs and cattle laſt winter; which mode of conſumption was found to anſwer better than ſelling it for malt, many of our malt houſes having been ſhut up.

'Butcher meat is on the advance; of courſe, fat cattle ſell better; Beef and Mutton from 6d. to 9d. per pound; Veal and Lamb 5d. to 7d.; Pork 5d. and 5½d.; Butter 11d. and 12.; Cheeſe 6d. to 9d. Potatoes are reaſonable, though dearer in proportion than the corn.'

Eſſex Quarterly Report.

WITHIN this laſt quarter the weather has been very fickle and changeable. However, upon the whole, we have not had a bad ſeed time, though it was prolonged by the alterations which took place. Beans were ſown at the latter end of February, and beginning of March, and are now ſhooting up. Barley will in a few days give the fields a beautiful appearance; and in the courſe of a fortnight we ſhall expect to ſee the earth covered with its full variety. Wheats are in a thriving ſtate, and, upon moſt lands, look amazingly well. The hoe will be found of eſſential ſervice this year, as the weeds generally prevail, owing to the mildneſs of the winter. Tares promiſe a good crop, as do both meadow and artificial graſſes. Food for cattle, however, is ſcarce, in conſequence of the failure of the turnip crops. Where cabbages were grown, they were found of great benefit, particularly in ſupplying the ewes, which have lambed down well. By the appearance which our ſtack-yards make in compariſon with the former years, we have no reaſon

to

to think that the grain markets will be conſiderably higher, particularly for barley. The property tax at this time engages the attention of every man of buſineſs, particularly farmers; but it has not yet been gathered; ſo that we are one year in arrear. It has altogether been aſſeſſed very fairly where pariſhes have lately been valued, and the rates equally adjuſted. It is taken generally by the rate, and in other caſes left to the deciſion of the aſſeſſors, which has been ſatisfactory to the country and commiſſioners, as few returns or appeals have been made. The landlord's tax is paid, not always according to the rent, but by the aſſeſſment of the tenant. It is thought, but it is impoſſible to decide, that this tax will be more productive than the old income tax.——*April 17th.*

Letter from the Eaſt Riding of Yorkſhire, April 17th.

'Our markets for grain have been very ſteady through the winter, and continue ſo, the prices in general for wheat (which is cultivated as much as poſſible) from 42s. to 52s. per quarter of 8 buſhels of 33 quarts each; the great difference in price owing to the injury ſuſtained by the mildew. Oats 17s. to 22s. per ditto, the former price being for long feed, the latter for Potato, Poland, and Frieſland of good quality. Beans 30s. to 33s. per do.; Barley 20s. to 22s. per do.; the laſt article very little grown here. Beef 7d. to 8d. per lib.; Mutton 7d.; Pork 6d.; Veal 8d. to 9d. About a month ago, we had every appearance of the ſeed time being a fine one; but after a few patches of beans had been ſown, and theſe before the land was ſufficiently dry, the weather changed to very wet; and the beans ſown ſince, ſay from the 7th to the 11th inſtant, are gone into a very cold bed indeed, and the few ſown ſooner are fairly embodied in a ſolid maſs of earth. The ſeed-time for oats is but lately begun; and as the weather continues wet, we may expect they will be ſown before the land be ſo dry as it ought to be for their reception. The wheat, wherever I go, has a ſickly appearance, owing, I ſuppoſe, to the abundance of moiſture fallen, and the continuation of wet cold weather, eſpecially upon fallowed land where lime has been uſed.

'Lean cattle and ſheep markets are on an average one third lower than this time twelvemonths; and the reduction in the price of pigs exceeds that. In rural œconomics can ſay but little; for I think your countrymen exceed us very much in agricultural purſuits; owing, in all probability, to the almoſt univerſal want of leaſes, and confidence, or both; which is a great public loſs. I don't, however, know any diſtrict more ſuſceptible of improvement, or that has greater advantages than this one, ſo far as a navigable river (perhaps as fine a one as any in the world) can contribute to that end, by conveying lime or manure, which may be had in any quantity, the former at 10s. to 12s. per chaldron of 32 buſhels Wincheſter, and the latter at 7s. to 12s. per cart-load of 1¼ ton, carried to the diſtance of 40 miles, freight included; or by flooding the low lands, which are very extenſive, in order to raiſe and enrich their ſoil with the mud, or what we call warp, which is profitable beyond deſcription upon peat earth, or light ſpongy earth that ap-

proaches ſomewhat to that nature, of which there are large tracts adjoining the rivers Humber, Trent, Ouſe, Don, and Air, over which the water may be conveyed every ſpring-tide at pleaſure, by having cloughs built, and drains cut for the purpoſe.

'About 100 acres of the latter ſoil, on the north ſide of the Humber, has been warped in the laſt ſeven years, (the firſt ever attempted on that ſide of the river); and the improvement made is great indeed, ſo as that wheat and beans can be grown with great ſafety, which could not be done before. I underſtand the tenant ſuggeſted the idea of the practicability of ſuch an improvement, and bore a large proportion of the expence. On the rivers Trent, Don, and Air, large tracts of land have been improved in this way, and more embankments continue to be made every year.'

Norfolk Quarterly Report.

A MORE gloomy and uncomfortable ſpring the agriculturiſt has ſeldom experienced than the preſent. Severe froſts and alternate thaws, the moſt trying of all weather to vegetable life, have deprived the fields of almoſt every appearance of verdure; and the total abſence of the ſun's enlivening beams, ſo deſirable at this ſeaſon, gives an unpleaſant proſpect, and excites apprehenſion leſt his exertions at ſeed-time ſhould be diſappointed at harveſt. If, on light ſoils, vegetation receives an early check, and if the ſeed remains long in the ground before it vegetates, the blade, when it does appear, is generally weak and ſickly; and nothing but a combination of happy circcumſtances, ſuch as a high ſtate of cultivation, an artificial richneſs in the ſoil, and a peculiarly favourable ſeaſon afterwards, can recover it. He has an additional mortification of reflecting, that, from the failure of turnips laſt year, the barley crop muſt ſuffer conſiderably; while his flocks, in the mean time, muſt languiſh and fall off, from the want of their uſual ſupport. All thoſe things throw a gloom upon rural affairs, which will not be ſoon removed.

In laſt Report it was mentioned, that wheat ſeed-time, in this county, was particularly favourable; and it was predicted that this circumſtance would enable the plants to reſiſt the ſeverity of the winter froſts. Happily, the prediction, is completely verified, as the plants are ſufficiently abundant; and, though ſomewhat backward, are now beginning to tiller well. Be it remembered, however, that many accidents are ſtill to be encountered. Blight, mildew, and ſmut may reduce the value of the moſt promiſing crop, both in quantity and quality; and a ſeaſon like the preſent is often the precurſor of ſuch evils as are now pointed out.

The barley crop of laſt year was more than an average one; but the ſtacks of that grain have almoſt completely diſappeared; and, after deducting for ſeed, a very inconſiderable quantity will remain for the market. Wheat was below an average crop, both in quantity and quality, but ſtill maintains its ground in the ſtack-yard. Turnips were originally very defective; but the winter quarter being favourable, the farmer was enabled to keep part of them for a long time, and had reaſon to believe that he poſſeſſed a full ſupply of ſpring food. The ſevere

weather

weather of February and March diſappointed theſe expectations. Fields which, during the winter, afforded a moſt gratifying proſpect, were, in the month of March, ſo completely deſtroyed, that not the ſlighteſt veſtige of the top or apple of a turnip could be ſeen, after the moſt minute inſpection; the whole having vaniſhed, as if by enchantment.

Of vetches and artificial graſſes, there appears a full plant, though both are unuſually late. Some hope may be entertained of a fair crop of lambs, though the ſeaſon is certainly againſt them. A petition was preſented from this county, complaining of hardſhips ſuſtained by improper corn laws, the additional malt tax, and praying redreſs; which petition is now under conſideration of Parliament. A ſtatement, in ſupport of the petition, drawn up by an intelligent agriculturiſt, which was laid before Mr Addington, is enclosed, together with ſome remarks thereupon.——*April* 18.

[We are ſorry that our limits preclude us from preſenting the above mentioned ſtatement at this time; but, if not out of date, it ſhall be inſerted in next Number.]

Northumberland Quarterly Report.

The favourable ſtate of the weather at the time of ſending laſt report ceaſed ſoon after, and the latter end of January proved exceedingly wet. The month of February and beginning of March were ſo alternately wet, and ſnow with hard froſt, that little or no ſeed was got in before the ſecond week in March. From the 12th to the 17th, the dry lands, that were cleared of turnips, were moſtly ſown with wheat; a few beans and peas were alſo put in, but the froſt and ſnow returning on the 18th, interrupted ſeed-work till the 29th, and obliged many people to abandon the idea of ſowing wheat and beans altogether. The oat-ſeed was moſtly done by the middle of April, when barley ſowing commenced; but another delay has taken place, by a cover of ſnow, for the laſt three days, with intenſe cold winds from the north-eaſt, which have moſtly prevailed for the laſt three weeks, and checked all kinds of vegetation. The young clovers were never known ſo backward, nor the ſcarcity of green food more ſeverely felt, turnips being moſtly done; and ruta baga, which was intended as a reſerve for late ſpring food, has in general proved very defective, being hoven and ſpungy at the heart, which cauſed many of them to rot. This diſeaſe was probably owing to the plant being long checked in its growth, and mildewed by the drought of laſt ſummer, and, when the rains came, growing ſo rapidly, and increaſing ſo much in ſize afterwards.

This winter has been very inimical to the mountain farmers; their ſheep were ſeldom in lower condition; and the ſnow and ſtormy weather at preſent, being in the middle of their lambing ſeaſon, will be ſeverely felt.

Hay and ſtraw are not in ſuch abundance as laſt year, and the ſtack-yards appear much thinner. Our corn markets are advancing a little. Wheat from 5s. 6d. to 6s. per buſhel Wincheſter; Barley, 2s. 6d. to 3s. 8d.; Oats, 2s. 6d. to 2s. 10d.; Beans and Peas, 3s. 9d. to 4s.—

The markets for fat ſtock are much lower than was expected laſt autumn; and thoſe who ſpeculated in buying ſtock to feed on turnips, will be conſiderable loſers. At laſt Morpeth market, ſheep were ſold at 7d. per lib. ſink, and have never exceeded 8d.; Beef is ſold from 7s. 6d. to 8s. per ſtone of 14 lib. ſink, but is expected to be higher.

The collection of a year's property tax of 9d. per pound on rent, has been loudly and juſtly complained of by all farmers; and probably an unfairer tax was never levied. The principle of it is ſaid to be 5 *per cent.* on income, to which the occupiers of lands have no objection; but, according to the preſent regulation, whereby 9d. per pound on rent is levied in England, many are paying 15 or 20 *per cent.* on their income, and ſcarcely in any inſtance leſs than 10 *per cent.*

Upon what *data* the framers of this act have gone, it is difficult to conjecture. Every farmer, however, can be at no loſs to bring numberleſs inſtances of the unjuſtneſs of the principle. Suppoſe we take one of a farm of 800l. a year, the tenant is charged as poſſeſſing an income of 600l., whereas his real profits are moſt probably not 200l.; and few inſtances can be produced where it exceeds 300l. I am fully convinced, that if the matter was fairly inveſtigated, it would be found that, nine times out of ten, the farmer's profit does not exceed 10 *per cent.* on his capital employed. Taking it at 10 *per cent.*, and ſuppoſing the capital employed on a farm of 800l. a year to be three rents, or 2400l., the income would be only 240l. If the capital is taken at four times the rent, or 3200l., the income would be 320l.; the average is leſs than half of what the tenant is charged with, and obliged unjuſtly to pay. An enlightened Legiſlature ought immediately to remove ſo heavy and ſo unfair a tax upon agriculture.——*April* 21.

Letter from a Yorkſhire Farmer, April 22.

'The weather for ſome time paſt has been ſo tempeſtuouſly cold, that vegetation is entirely at a ſtand, and as the turnips are now moſtly eaten, the ſheep are in great want of food, which will be ſeverely felt, as the lambing ſeaſon is commenced. The ſeverity of the weather has deſtroyed many lambs, and the general ſize is uncommonly ſmall.—The ſowing of ſpring grain has been unuſually retarded, and much is yet unfiniſhed.

'Cattle and ſheep are falling in price every day. A large ſtock of fat ſheep is ſaid to be on hand, and the graziers of ſheep upon turnips muſt loſe conſiderably.—Our markets for grain are looking up, and I think will continue to do ſo, as our ſtack-yards are very thin.

'Hay is ſelling at 7d. per ſtone of 14 lib., and is much ſought after.—The ſowing potato oats is entirely abandoned in Yorkſhire—they are found to be comparatively unproductive, and much ſubject to ſmut. I have not heard of one perſon having made uſe of them this year for ſeed; they are, however, preferred by the meal-ſellers to other ſorts, and are worth more by about 3d. per buſhel.'

Letter

Letter from London, April 23.

'We had a good ſupply of wheat to day; but the country markets being imperfectly furniſhed, occaſioned an increaſed demand. Barley has advanced within theſe few days fully 2s. per quarter, and beans are purchaſed at a ſimilar increaſe of price. Our ſupply of oats was moderate, and ſales were made freely, as will appear from the annexed ſtate.

'During the laſt three months, we have had an abundant ſupply of all kinds of grain, and prices have kept tolerably ſteady. A great many cargoes of foreign oats have been imported, and our arrivals from the northward are numerous. The price of graſs ſeeds, which had been on the decline for two months paſt, has lately advanced, eſpecially thoſe of fine quality. Hay, from the late cold and unpropitious weather, has riſen 5s. per load.—Some of the wheats on cold ſoils are looking very yellow.

'The Engliſh tenantry do not reliſh the property tax more than their northern brethren. The rent is taken upon an average of the ſeven preceding years; of courſe, 1802 is the laſt of the ſeries, and on the average thereof the tax for 1803 is paid.

'State of London Markets, April 23.

'Wheat - - -	30s. 45s. 52s. per quarter.
Grand South Country do.	52s. to 55s.
Eſſex and Kent - -	56s.—57s.
Foreign red - -	35s.—48s.
White Dantzic - -	50s. 54s.—58s.
Rye - - -	30s.—36s.
Barley - - -	20s.—25s.
Fine Barley - -	26s.
Suffolk Malt - -	56s.—58s.
Norfolk ditto - -	59s.—60s.
Grey Peas - -	30s.—33s.
Small Beans - -	35s.—39s.
Oats, long feed - -	18s.—21s. 6d.
Frieſlands - -	22s. 6d.—24s.
Polands - - -	23s.—25s.
Red Clover Seed -	70s.—84s. per cwt.
White ditto - -	90s.—105s.
Seed Tares - -	6s. per buſhel'.

NOTICES

NOTICES TO CORRESPONDENTS.

The *Strictures* of A. Z. remind us of the articles of impeachment ſaid to be preſented by Mr Burke to the Duke of Portland againſt Mr Fox. Perhaps it may ſave this gentleman ſome trouble, were he informed that the whole arrangement of the Magazine is committed to the CONDUCTOR, and that the PUBLISHER does not interfere therein. In point of conſiſtency, A. Z. does not ſeem to poſſeſs a larger ſhare than other great men. He finds fault becauſe anonymous communications are inſerted in the Magazine, and yet *anonymouſly* libels its Conductor and principal ſupporters!

It has been out of our power to find room for A. G.'s *Letter on Threſhing Machines;* but he may rely upon its appearance in next Number. Our Dumfries correſpondent will pleaſe accept of the like notice as to his *Drainage Paper*, which has been too long delayed.

A valuable Eſſay on the ſubject of *Regulating the Value of Labour*, has been ſent us from Ayrſhire. Our ſentiments are much in uniſon with the author's leading principles, though ſome of his arguments appear to be inconcluſive.

The *Liverpool Meteorological Account* is unavoidably poſtponed.

FLAMINIUS on *Road-Work*, and OBSERVATOR on a *Juſt Rotation of Crops*, ſhall appear in our next. We have experienced a good deal of ſatisfaction from peruſing theſe two communications.

Several ingenious remarks on A. S.'s Lime Paper, p. 27, have been received. Some of them will probably appear in next Number.

The gentleman who ſigns himſelf A FEN AGRICULTURIST, ſhall be attended to. He is requeſted to tranſmit the papers mentioned; and if he pleaſes to favour us with his addreſs, our obligations to him will be increaſed.

Many other communications are come to hand, which will be duly attended to.

The Dumfries, Moray, and Kincardine reports, and other articles of intelligence, were too late.

No. XIX. will be publiſhed on Monday 13. Auguſt 1804.

ERRATUM IN THIS NUMBER.

P. 174. Second line from top, for *laſt*, read *leaſt*.